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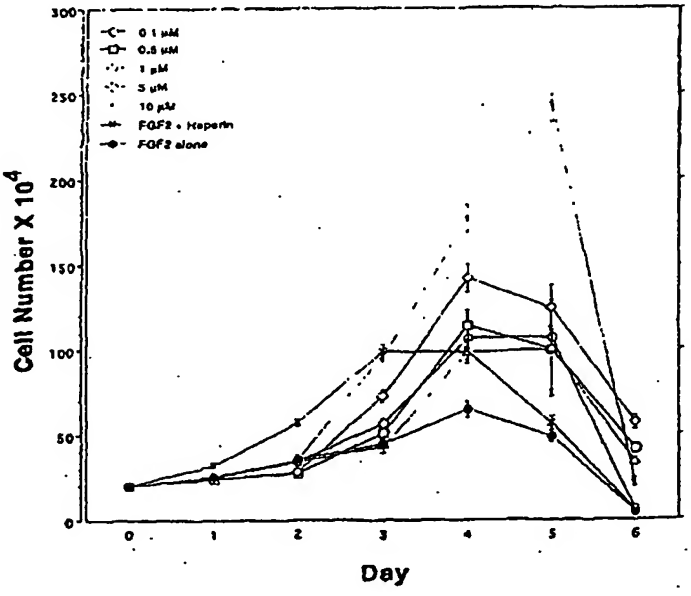
(54) Title: STRUCTURE-BASED DESIGN AND SYNTHESIS OF FGF INHIBITORS AND FGF MODULATOR COMPOUNDS



(57) Abstract: The present invention provides methods and compositions for modulating FGF-signaling and activities associated therewith, such as mitogenesis and angiogenesis. In particular, the invention provides crystal structure coordinates for a ternary complex of an FGF-receptor, and FGF ligand, and a third compound, sucrose octasulfate, that binds to the FGF receptor and ligand to promote formation and dimerization of the ternary complex. Screening methods are provided by which novel agonists and antagonist for FGF-mediating signaling and activities may be identified using these crystal structure coordinates. Exemplary compounds are also provided that have novel utilities as agonists or antagonists of FGF-mediated signaling and activites.

STRUCTURE-BASED DESIGN AND SYNTHESIS OF FGF INHIBITORS AND FGF MODULATOR COMPOUNDS

CROSS-REFERENCE TO RELATED APPLICATION(S)

Priority is claimed under 35 U.S.C. § 119(e) to U.S. provisional patent application serial no. 60/335,583 filed on October 31, 2001, which is incorporated herein by reference in its entirety.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND/OR DEVELOPMENT

This invention was made with Government support under Grant Nos. 1R01-DE13686-01, 1RO1-HL52622 and 1RO1-HL62244, awarded by the National Institutes of Health. The United States Government may have certain rights to this invention pursuant to the terms of those grants.

FIELD OF THE INVENTION

The present invention relates to a class of proteins known as fibroblast growth factor (FGF) proteins or FGF ligands. The invention also relates to receptors, known as fibroblast growth factor receptors (FGFRs), that recognize and specifically bind to FGF proteins. More specifically, the invention relates to novel uses of compounds such as sucrose octasulfate (SOS), myo-inositol hexasulfate, cyclodextrin (particularly sulfated β-cyclodextrin) and suramin to modulate biological activity associated with FGF. The invention also relates to uses of such compounds to modulate dimerization of FGF - FGFR complexes.

BACKGROUND OF THE INVENTION

The mammalian fibroblast growth factor (FGF) family comprises at least 22 related polypeptides that are generally known in the art as FGF1 - FGF22. These polypeptides are known to be essential for normal human development and, moreover, are

involved in the pathologies of many human diseases such as cancer and dwarfism, to name a few. For reviews, see McKeehan *et al.*, *Progress in Nucleic Acid Research and Molecular Biology* 1998, 59:135-176; Nishimura *et al.*, *Biochim. Biophys. Acta.* 2000, 1492:203-206; and Yamashita *et al.*, *Biochem. Biophys. Res. Commun.* 2000, 277:494-498.

The diverse effects of FGF polypeptides are mediated by at least four receptor tyrosine kinase polypeptides, referred to collectively as the FGF receptors (FGFRs), and known individually as FGFR1 - FGFR4. These FGFR polypeptides comprise an extracellular domain, a single transmembrane helix domain, and a cytoplasmic portion with tyrosine kinase activity. The FGFR polypeptides' extracellular domain itself has at least three immunoglobulin (Ig)-like domains, which are referred to respectively as D1 - D3. The receptors' binding specificity resides in, and is therefore incurred by, the D2 and D3 and by the short linker polypeptide sequence between those two domains. See, Plotnikov *et al.*, *Cell* 1999, 98:641-650; Plotnikov *et al.*, *Cell* 2000, 101:413-424; and Stauber *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 2000, 97:49-54 for a more detailed discussion.

FGF-induced FGFR dimerization is a key event in FGF signaling processes (Schlessinger, 2000). However, whereas other known growth factors such as platelet-derived growth factor (PDGF), neurotrophic growth factor (NGF) and colony stimulating growth factor 1 (CSF1) are themselves dimeric molecules, the FGF polypeptides are monomeric molecules and do not form dimers by themselves in solution. Consequently, FGF polypeptides cannot induce receptor dimerization by themselves and instead require soluble or cell surface-bound heparan sulfate proteoglycans (HSPG) to promote FGFR dimerization and subsequent activation.

The crystal structure determined for one FGF-FGFR-heparin complex (see, Schlessinger *et al.*, *Molecular Cell* 2000, 6:743-750) indicates one putative mechanism by which heparin may facilitate FGFR dimerization. Without being limited to any particular theory or mechanism of interaction, such dimerization is believed to occur according to a "two end" model in which the non-reducing end of heparin interacts with heparin binding sites of the FGF and FGFR polypeptides to promote formation of a ternary FGF:FGFR:heparin complex of 1:1:1 stoichiometry. A second ternary FGF:FGFR:heparin complex is then recruited to this first complex by means of interactions of (i) FGFR, FGF and heparin in the first complex, with (ii) FGFR in the second complex.

The central role played by heparin for the dimerization, and hence activation, of FGF receptor polypeptides makes heparin's interactions with FGF and FGFR attractive targets for compounds which may modulate FGF receptor activity. Compounds that modulate this interactions would be useful as therapeutic agents, *e.g.*, for the treatment of disorders associated with FGFR activity. However, the capabilities that are currently available for large-scale preparation of homogenous heparin oligosaccharides suitable for therapeutic applications are severely limited (see, Pervin *et al.*, *Glycobiology* 1995, 5:83-95). There exists, therefore, a need for identifying other molecules which modulate the dimerization of FGF receptor polypeptides (*e.g.*, by interfering with the stabilizing interactions of heparin), and which may therefore be useful, *e.g.*, as therapeutic agents to modulate FGF receptor activity and to treat disorders associated with such activity.

It has also been suggested that some other sulfated compounds may also bind to an FGF ligand in place of heparin. For example, sucrose octasulfate (SOS) is marketed as an aluminum salt in CARAFATE® or sucralfate, a pharmaceutical composition used to treat duodenal ulcers (see, the *Physician's Desk Reference*, 54 Ed., 2000, Medical Economics Company, Inc., Montvale, New Jersey). The mechanisms by which the compound heals ulcers are largely unknown. However, it has been suggested that SOS may promote healing by binding to and stabilizing FGFs against denaturation in the acidic pH of the stomach (Folkman *et al.*, *Ann. Surg.* 1991, 214:414-425; see, also, Volkin *et al.*, *Biochimica et Biophysica Acta* 1993, 1203:18-26). A crystal structure of SOS bound to FGF1 also shows that SOS stabilizes FGF by neutralizing the positively charged high affinity heparin binding residues in FGF (Zhu *et al.*, *Structure* 1993, 1:27-34). The FGF ligand is also known to bind inositol hexasulfate (Pineda-Lucena, *J. Mol. Biol.* 1994, 42:81-98) and to suramin (Middaugh *et al.*, *Biochemistry* 1992, 31:9016-9024). However, whereas inositol hexasulfate may function as a substitute for heparin to activate FGF signaling (Pineda-Lucena *et al.*, *supra*), suramin actually inhibits signaling by FGF (Middaugh *et al.*, *supra*).

Despite these teachings, it is not currently known in the art whether these compounds may also mediate or inhibit dimerization of FGF receptor molecules. Indeed, the exact mechanism(s) by which such compounds activate or inhibit FGF signaling remain unknown. The knowledge of such particular interactions may greatly facilitate the identification and/or screening of novel compounds that may be used as therapeutic agents

(*e.g.*, to modulate FGF signaling and/or activities associated therewith). However, in the absence of such knowledge, candidate compounds may only be identified by a completely haphazard and random screening of different guidance, with no ability to determine what compounds may or may not be reasonably expected to work.

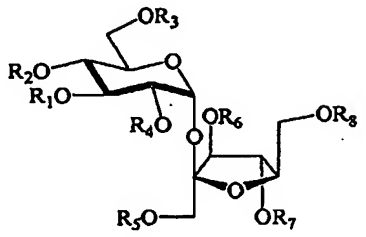
SUMMARY OF THE INVENTION

The present invention seeks to overcome problems in the prior art by providing ternary complexes of: (a) an FGF ligand; (b) an FGF receptor; and (c) a heparin agonist or antagonist, that is to a say a compound that mimics the binding of heparin and heparan sulfate to the FGF ligand and receptor. Crystalline forms of such ternary complexes are also described, and crystal structure coordinates for these forms are provided.

In particular, Applicants have discovered that small, preferably sulfated molecules such as sucrose octasulfate (SOS) and its derivatives, are able to specifically and simultaneously bind to FGF ligands and FGFR polypeptides and augment binding of an FGF ligand to its receptor. Moreover, such compounds are also able to stabilize dimers of the resulting ternary complexes, effectively promoting dimerization of the FGF-FGFR complexes. Using such ternary complexes and crystal structure coordinates thereof, it is possible to identify compounds that may modulate FGF-mediated signaling and/or activities associated with such signaling. For example, the ternary complexes of this invention may be used to identify compounds that form a dimerization incompetent ternary complex with an FGF ligand and FGF receptor. Such compounds are then expected to be useful, *e.g.*, for inhibiting FGF-mediating signaling or an activity associated therewith. For example, compounds identified by these screening methods may be used to modulate tyrosine kinase activity of an FGF receptor, or they may modulate an activity such as mitogenesis, angiogenesis, cell growth (including tumor cell growth or tumor growth) that are associated with FGF signaling. The compounds are useful, *e.g.*, in therapeutic methods and formulations, to treat or ameliorate disorders that are associated with FGF-signaling, including cell proliferative disorders such as cancer.

The invention also provides compounds that have novel uses as modulators of FGF-signaling or an activity mediated thereby. In preferred embodiments, the compounds are derivatives of sucrose octasulfate.

Thus, in preferred embodiments, compounds used in the methods and compositions of the invention may have the structure:



in which R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 are independently benzyl, trityl or $-SO_3H$. Preferably at least one of R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 is either benzyl or trityl. Particularly preferred, exemplary compounds are described in the Examples, *infra*, and their structures are set forth in **FIG. 8** (Structures I and II), in **FIG. 9** (Structure III), in **FIG. 10** (Structure IV) and in **FIG. 11** (Structures V and VI).

In other preferred embodiments, compounds that may be used in the methods and compositions of this invention include cyclodextrin compounds, particularly sulfated cyclodextrin compounds and sulfonated cyclodextrin compounds. The cyclodextrin compounds used may be, *e.g.*, an α-cyclodextrin compound, a β-cyclodextrin compound or a γ-cyclodextrin compound, with β-cyclodextrin compounds being particularly preferred.

Still other compounds may also be used in the methods and compositions of this invention, including but not limited to inositol hexasulfate and suramin and their derivatives may also be used.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1A-1B present the amino acid sequence (**FIG. 1A**) of an exemplary FGF polypeptide, known as FGF2 (SEQ ID NO:1), along with an exemplary FGF2 nucleic acid sequence (**FIG. 1B**; SEQ ID NO:2) having an open reading frame () that encodes this FGF2 polypeptide. The FGF2 polypeptide sequence (SEQ ID NO:1) is available from GenBank and has the Accession No. P09038 (GI:122742). The nucleic acid sequence (SEQ ID NO:2) is also available from GenBank and has the Accession No. M17599.1 (GI:183086).

FIGS. 2A-2B present the amino acid sequence (**FIG. 2A**) for an exemplary FGF receptor polypeptide, known as FGFR1 (SEQ ID NO:3), along with an exemplary FGFR1 nucleic acid sequence (**FIG. 2B**; SEQ ID NO:4) having an open reading frame that encodes this FGFR1 polypeptide. The FGFR1 polypeptide sequence (SEQ ID NO:3) is available from GenBank and has the Accession Number P11362 (GI:120046). The nucleic acid sequence is also available from GenBank and has the Accession No. X51803.1 (GI:31367).

FIGS. 3A-D show chromatograms obtained from aliquots of purified 1:1 molar ratios of FGF2:FGFR1 complexes (2 mg) mixed with various molar ratios of sucrose octasulfate (SOS) and analyzed on a Superdex 200 size exclusion column in 25 mM HEPES-NaOH buffer (pH 7.5) containing 150 mM NaCl. The elution positions of monomers and dimers of the FGF2:FGFR1 complexes are indicated by the letters M and D, respectively. The letter L indicates the position of free FGF2 resulting from dissociation of FGF2:FGFR1 complexes due to protein dilution during the size exclusion chromatography. **FIG. 3A** shows the size exclusion chromatogram for a control solution that contains no SOS. **FIG. 3B** shows the size exclusion chromatogram when SOS was added at a molar ratio of 1:1:0.25 FGF2:FGFR1:SOS. **FIG. 3C** shows the size exclusion chromatogram when SOS was added at a molar ratio of 1:1:0.5 FGF2:FGFR1:SOS. **FIG. 3D** shows the size exclusion chromatogram when SOS was added at a molar ratio of 1:1:1 FGF2:FGFR1:SOS.

FIG. 4 graphically presents average daily counts and standard deviations of viable BaF3 cells that were transfected to stably express FGFR1 and cultured in the presence of FGF2 (50 ng/ml), either alone (●), with 3 μM heparin (×) or with SOS at a concentration of 0.1 μM (○), 0.5 μM (□), 1 μM (△), 5 μM (◇) or 10 μM (+).

FIGS. 5A-C illustrated the crystal structure determined for the FGF2-FGFR1-SOS complex. **FIG. 5A** illustrates an exemplary orthorhombic space group $P2_12_12_1$ crystal of the FGF2-FGFR1-SOS complex. **FIGS. 5B-C** illustrate the overall structure of one of the two 2:2:2 FGF2-FGFR2-SOS dimers in the crystal's asymmetric unit. The structure illustrated in **FIG. 5C** is identical to the structure shown in **FIG. 5B**, as viewed when rotated

90° around the horizontal axis.

FIG. 6 is a stereo view of the Fo-Fc electron density map computed after simulated annealing with SOS omitted from the atomic model. The electron density map is computed at 2.6 Å resolution and contoured at 2.6 σ.

FIG. 7 schematically illustrates interactions between SOS, FGF2 and FGFR1 in a dimerized ternary complex of FGF2, FGFR1 and SOS. Hydrogen bonding interactions are indicated by dashed lines. Shading around the different amino acid residues indicates to which polypeptide the residue belongs: FGF2, the primary FGFR1 (*i.e.*, the FGFR1 molecule to which FGF2 is bound) and the secondary FGFR1 molecule in the dimer.

FIG. 8 illustrates the exemplary synthesis of two preferred SOS derivatives: 2-O-Bn sucrose heptasulfate (structure I) and 1'-O-Bn sucrose heptasulfate (structure II).

FIG. 9 illustrates the exemplary synthesis of another preferred SOS derivative: 1', 2-di-O-Bn sucrose hexasulfate (structure III).

FIG. 10 illustrates the exemplary synthesis of a third preferred sulfonated sucrose derivative: 4,6-*O*-isopropylidene sucrose hexasulfate (Structure IV).

FIG. 11 illustrates the exemplary synthesis of two additional preferred sulfonated sucrose derivatives: 2-*O*-dodecanoyl sucrose hexasulfate (Structure V) and 6'-*O*-hexadecanoyl sucrose hexasulfate (Structure VI).

FIG. 12 illustrates the chemical structure of suramin (Structure VII).

FIG. 13 shows chromatograms obtained from aliquots of purified 1:1 molar ratios of FGF2:FGFR1 complexes (2 mg) mixed with various molar ratios of suramin and analyzed on a Superdex 200 size exclusion column in 25 mM HEPES-NaOH buffer (pH 7.5) containing 150 mM NaCl. The elution positions of monomers and dimers of the

FGF2:FGFR1 complexes are indicated by the letters M and D, respectively. The letter L indicates the position of free FGF2 resulting from dissociation of FGF2:FGFR1 complexes due to protein dilution during the size exclusion chromatography. **FIG. 13A** shows the size exclusion chromatogram for a control solution that contains no suramin. **FIG. 13B** shows the size exclusion chromatogram when suramin was added at a molar ratio of 1:1:0.25 FGF2:FGFR1:suramin. **FIG. 13C** shows the size exclusion chromatogram when suramin is added at a molar ratio of 1:1:0.5 FGF2:FGFR1:suramin. **FIG. 13D** shows the size exclusion chromatogram when suramin is added at a molar ratio of 1:1:1 FGF2:FGFR1:suramin.

FIG. 14 illustrates an exemplary, general structure for derivatives of a preferred class of cyclodextrin molecule, β-cyclodextrin (Structure VIII). For sulfonated cyclodextrin molecules, each R group is independently selected and is preferably either a hydrogen group (H) or a sulfonate group (SO_3) with at least one R being a sulfonated group. For sulfated cyclodextrin molecules, each R group is independently selected and is preferably either a hydrogen group (H) or a sulfate group (SH) with at least one R being a sulfate group.

FIG. 15A graphically presents average daily counts and standard deviations of viable BaF3 cells that were transfected to stably express FGFR1 and cultured in the presence of FGF1 (50 ng/ml) either alone (□), with 10 μg/ml heparin (×), or with sulfonated β-cyclodextrin at concentrations of 1 μM (▲), 5 μM (◆), 10 μM (●), or 25 μM (■).

FIGS. 15B and **15C** show immunoblots of cellular proteins from BaF3 cells that overexpress FGFR1 and were incubated with FGF1 (50 ng/ml), heparin (10 μg/ml) and sulfonated β-cyclodextrin (5 and 25 μM). **FIG. 15B** shows protein bands that were immunoprecipitated with an anti-FGFR1 monoclonal antibody and detected using labeled antibody to phosphotyrosine. **FIG. 15C** shows protein bands that were immunoprecipitated with monoclonal antibodies to ERK-1 and/or ERK-2, and detected with labeled antibody to phosphotyrosine.

FIGS. 16A-16B present the amino acid sequence (**FIG. 16A**) of a second exemplary FGF polypeptide, known as FGF1 (SEQ ID NO:5), along with an exemplary FGF1

nucleic acid sequence (**FIG. 16B**; SEQ ID NO:6) having an open reading frame (nucleotides 142-609) that encodes this FGF1 polypeptide. The FGF1 polypeptide sequence (SEQ ID NO:5) is available from GenBank and has the Accession No. NP_000791 (GI:4503697). The nucleic acid sequence (SEQ ID NO:6) is also available from GenBank and has the Accession No. NM_000800 (GI:15055546).

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to a particular family or class of polypeptides, referred to herein as fibroblast growth factor (FGF) polypeptides or as FGF ligands. The FGF ligands of the invention bind to a particular family or class of receptor polypeptides, that are referred to herein as FGF receptors (FGFR). Briefly, and without being limited to any particular theory or mechanism of action, the FGF ligands are believed to mediate cell signaling by specifically binding to FGFR polypeptides. Upon binding to an FGF ligand, the FGFR polypeptide then binds to a second FGFR molecule and, more preferably, binds to a second FGFR molecule that has also bound to an FGF ligand, to form a dimer complex, and a tyrosine kinase activity of the receptor is then activated. In particular, upon forming the dimer complex biological activities (such as mitogenesis, angiogenesis and/or tumor growth) that are associated with FGF signaling may be activated and/or increased.

Under normal physiological conditions, heparan sulfate proteoglycans (HSPG) are also required to promote ligand binding and/or dimerization by FGFR. In particular, and again without being limited to any particular theory or mechanism of action, heparin and HSPGs are believed to bind to the FGF ligand and its receptor, and thereby stabilize the FGF ligand-receptor complex. Moreover, the HSPG (*e.g.*, heparin) is also believed to interact with a second FGFR molecule, thereby promoting FGFR dimerization. More specifically, it is understood that, under normal physiological conditions FGF ligand, FGFR and heparin bind to each other to form a 1:1:1 ternary complex; *i.e.*, a complex consisting essentially of one FGF ligand molecule, one FGFR molecule, and one heparin molecule (referred to herein as the "ternary complex" or as the FGF:FGFR:heparin complex). This ternary complex is understood to form stable dimers, by binding to a second ternary complex, under normal physiological conditions, thereby activating the FGF receptor(s).

Applicants have discovered, as demonstrated in the Examples *infra*, that small,

sulfated molecules may also form ternary complexes with an FGF receptor and its ligand. In particular, the Examples, *infra*, describe experiments in which sucrose octasulfate (SOS) forms a 1:1:1 ternary complex with an FGF ligand and receptor. Thus, these experiments demonstrate that small molecules such as SOS are able to act in place of heparin to stabilize binding of an FGF ligand to its receptor. Moreover, the experiments further demonstrate that SOS also stabilizes dimerization of the FGF receptor.

The Examples, *infra*, describe additional experiments demonstrating that other small molecules, particularly suramin, are also capable of forming 1:1:1 ternary complexes with an FGF ligand and receptor and, moreover, show that these molecules may function as antagonist of FGF-mediating signaling. Specifically, the experiments show that compounds such as suramin actually induce the formation of FGF - FGFR dimers that are signaling incompetent.

The Experiments described in the Examples, *infra*, additionally provide a three-dimensional structure, determined by X-ray crystallography, for a dimeric 2:2:2 FGF2:FGFR1:SOS complex (coordinates for this structure are provided in the Appendix, *infra*). This structure reveals particular interactions between sulfate groups of the SOS and amino acid residues of FGF and FGFR. These interactions are involved in the stabilization of (1) complexes between the FGF ligand and its receptor (more specifically, the stabilization of a 1:1:1 FGF:FGFR:SOS ternary complex); and (2) FGFR dimers (more specifically, stabilization of the ternary complex dimers).

For example, hydrogen-bonding interactions are described in Example 4, *infra*, between sulfate groups of the SOS molecule, and amino acid residues lysine 163 and lysine 177 of FGFR1. Hydrogen bonding interactions are also described between sulfate groups of SOS, and amino acid residues lysine 26 and lysine 135 of FGF2. Without being limited to any particular theory or mechanism of action, these hydrogen bonding interactions are believed to be involved in the stabilization of the FGF2:FGFR1:SOS ternary complex. Other hydrogen-bonding interactions are also described between sulfate groups of the SOS molecule, and amino acid residues lysine 207, glycine 205 and aspartic acid 218 of the second FGFR1 molecule in the dimer. Thus, these other hydrogen bonding interactions are expected to be involved in stabilization of dimers of the ternary complex.

Accordingly, the present invention relates to and provides a three dimensional

(*i.e.* "tertiary") structure for a ternary complex (preferably a dimerized ternary complex) of (i) an FGF ligand, (ii) an FGF receptor, and (iii) a small, preferably sulfated molecule that promotes formation and/or dimerization of such a ternary complex. For example, coordinates for an exemplary structure, which is a ternary complex of FGF2:FGFR1:SOS, are provided in the Appendix, *infra*. In preferred embodiments, the small molecule is SOS or a derivative thereof. However, the skilled artisan will appreciate that other small molecules, particularly sulfated molecules, may be used, such as inositol hexasulfate, sulfated β-cyclodextrin and suramin. The invention also relates to and provides crystals comprising an above-described ternary complex which are of suitable quality and therefore useful for determining the three dimensional structure of such a complex.

The crystals and structure of the present invention are useful, *e.g.*, for identifying other compounds that may bind to an FGF ligand and/or its receptor and therefore modulate their activity. For example, using computer modeling algorithms and other techniques well known in the art, a user may readily use the structure provided here to identify other compounds that are expected to similarly bind to an FGF ligand and/or its receptor. Another aspect of the invention therefore involves the use of the above-mentioned structures and/or crystals to identify other compounds that interact with an FGF ligand and/or its receptor, and which may be useful, *e.g.*, as antagonist or agonist of FGF-mediated signaling.

A skilled user may identify compounds that form or may be expected to form stabilizing interactions in a ternary complex with an FGF ligand and its receptor. In one preferred aspect, such compounds may be ones that do not form (or are not expected to form) stabilizing interactions with another ternary complex or, more specifically, with another FGF receptor. Such compounds would then be expected to inhibit dimerization of an FGF receptor, and may be used, *e.g.*, as antagonist of an FGF receptor and/or to inhibit FGF mediated signaling and effects thereof. In another preferred aspect of such methods, the compounds identified may be ones that form (or are expected to form) improved interactions with either an FGF ligand or an FGF receptor in a ternary complex, or with a second FGF receptor (*i.e.*, in a dimer). Such improved interactions might be, for example, hydrogen bonding or other interactions that may be either stronger or more specific that those observed for another compound (for example, stronger or more specific than interactions observed for

heparin or for SOS). Compounds identified in this aspect of the invention may be expected to bind more strongly and/or more specifically with and FGF ligand and its receptor, and may also be expected to bind more strongly and/or specifically with a second FGFR molecule to form dimers. Thus, the compounds identified in this second aspect may be useful, *e.g.*, as agonists to increase activation of an FGF receptor and/or an activity associated therewith.

Classes of compounds that may be identified by such screening assays include, but are not limited to, small molecules (*e.g.*, organic or inorganic molecules which are less than about 2 kDa in molecular weight, are more preferably less than about 1 kDa in molecular weight, and/or are able to cross the blood-brain barrier and affect FGF-signaling or activities associated therewith) as well as macromolecules (*e.g.*, molecules greater than about 2 kDa in molecular weight). Compounds identified by these screening assays may also include peptides and polypeptides. Examples of such compounds (including peptides) include but are not limited to: soluble peptides; fusion peptide members of combinatorial libraries (such as ones described by Lam *et al.*, *Nature* 1991, 354:82-84; and by Houghten *et al.*, *Nature* 1991, 354:84-86); members of libraries derived by combinatorial chemistry, such as molecular libraries of D- and/or L-configuration amino acids; phosphopeptides, such as members of random or partially degenerate, directed phosphopeptide libraries (see, *e.g.*, Songyang *et al.*, *Cell* 1993, 72:767-778); antibodies, including but not limited to polyclonal, monoclonal, humanized, anti-idiotypic, chimeric or single chain antibodies; antibody fragments, including but not limited to Fab, $F(ab')_2$, Fab expression library fragments, and epitope-binding fragments thereof.

In preferred embodiments, the compounds identified in such methods are sulfated saccharides, preferably disaccharides such as sucrose octasfulate (SOS), and their derivatives. However, other small, sulfated compounds such as sulfated inositols, sulfated cyclodextrins and their derivatives may also be used. Particular exemplary compounds may include myo-inositol hexasulfate, sulfated β-cyclodextrin, and their derivatives, and suramin. Indeed, a skilled artisan will appreciate that any compound that may be modified with an FGF ligand-receptor complex (*e.g.*, using routine computer modeling algorithms) may be used in the screening methods described here. The methods, therefore, are not limited to the particular compounds that are described in this application only to illustrate the invention.

Definitions

The terms used in this specification generally have their ordinary meanings in the art, within the context of this invention and in the specific context where each term is used. Certain terms are discussed below, or elsewhere in the specification, to provide additional guidance to the practitioner in describing the compositions and methods of the invention and how to make and use them.

General Definitions. As used herein, the term "isolated" means that the referenced material is removed from the environment in which it is normally found. Thus, an isolated biological material can be free of cellular components, *i.e.*, components of the cells in which the material is found or produced. In the case of nucleic acid molecules, an isolated nucleic acid includes a PCR product, an isolated mRNA, a cDNA, or a restriction fragment. In another embodiment, an isolated nucleic acid is preferably excised from the chromosome in which it may be found, and more preferably is no longer joined to non-regulatory, non-coding regions, or to other genes, located upstream or downstream of the gene contained by the isolated nucleic acid molecule when found in the chromosome. In yet another embodiment, the isolated nucleic acid lacks one or more introns. Isolated nucleic acid molecules include sequences inserted into plasmids, cosmids, artificial chromosomes, and the like. Thus, in a specific embodiment, a recombinant nucleic acid is an isolated nucleic acid. An isolated protein may be associated with other proteins or nucleic acids, or both, with which it associates in the cell, or with cellular membranes if it is a membrane-associated protein. An isolated organelle, cell, or tissue is removed from the anatomical site in which it is found in an organism. An isolated material may be, but need not be, purified.

The term "purified" as used herein refers to material that has been isolated under conditions that reduce or eliminate the presence of unrelated materials, *i.e.*, contaminants, including native materials from which the material is obtained. For example, a purified protein is preferably substantially free of other proteins or nucleic acids with which it is associated in a cell; a purified nucleic acid molecule is preferably substantially free of proteins or other unrelated nucleic acid molecules with which it can be found within a cell. As used herein, the term "substantially free" is used operationally, in the context of analytical testing of the material. Preferably, purified material substantially free of contaminants is at

least 50% pure; more preferably, at least 90% pure, and more preferably still at least 99% pure. Purity can be evaluated by chromatography, gel electrophoresis, immunoassay, composition analysis, biological assay, and other methods known in the art.

Methods for purification are well-known in the art.. For example, nucleic acids can be purified by precipitation, chromatography (including preparative solid phase chromatography, oligonucleotide hybridization, and triple helix chromatography), ultracentrifugation, and other means. Polypeptides and proteins can be purified by various methods including, without limitation, preparative disc-gel electrophoresis, isoelectric focusing, HPLC, reversed-phase HPLC, gel filtration, ion exchange and partition chromatography, precipitation and salting-out chromatography, extraction, and countercurrent distribution. For some purposes, it is preferable to produce the polypeptide in a recombinant system in which the protein contains an additional sequence tag that facilitates purification, such as, but not limited to, a polyhistidine sequence, or a sequence that specifically binds to an antibody, such as FLAG and GST. The polypeptide can then be purified from a crude lysate of the host cell by chromatography on an appropriate solid-phase matrix. Alternatively, antibodies produced against the protein or against peptides derived therefrom can be used as purification reagents. Cells can be purified by various techniques, including centrifugation, matrix separation (*e.g.*, nylon wool separation), panning and other immunoselection techniques, depletion (*e.g.*, complement depletion of contaminating cells), and cell sorting (*e.g.*, fluorescence activated cell sorting [FACS]). Other purification methods are possible. A purified material may contain less than about 50%, preferably less than about 75%, and most preferably less than about 90%, of the cellular components with which it was originally associated. The "substantially pure" indicates the highest degree of purity which can be achieved using conventional purification techniques known in the art.

A "sample" as used herein refers to a biological material which can be tested, *e.g.*, for the presence of an FGF polypeptide or FGF nucleic acid or, alternatively, for the presence of an FGFR polypeptide or nucleic acid (*e.g.*, to identify cells that specifically express either FGF or FGFR). Such samples can be obtained from any source, including tissue, blood and blood cells, including circulating hematopoietic stem cells (for possible detection of protein or nucleic acids), plural effusions, cerebrospinal fluid (CSF), ascites fluid, and cell culture. In preferred embodiments samples are obtained from bone marrow.

Non-human animals include, without limitation, laboratory animals such as mice, rats, rabbits, hamsters, guinea pigs, etc.; domestic animals such as dogs and cats; and, farm animals such as sheep, goats, pigs, horses, and cows.

In preferred embodiments, the terms "about" and "approximately" shall generally mean an acceptable degree of error for the quantity measured given the nature or precision of the measurements. Typical, exemplary degrees of error are within 20 percent (%), preferably within 10%, and more preferably within 5% of a given value or range of values. Alternatively, and particularly in biological systems, the terms "about" and "approximately" may mean values that are within an order of magnitude, preferably within 5-fold and more preferably within 2-fold of a given value. Numerical quantities given herein are approximate unless stated otherwise, meaning that the term "about" or "approximately" can be inferred when not expressly stated.

The term "molecule" means any distinct or distinguishable structural unit of matter comprising one or more atoms, and includes, for example, polypeptides and polynucleotides.

The term "therapeutically effective dose" refers to that amount of a compound or compositions that is sufficient to result in a desired activity.

The phrase "pharmaceutically acceptable" refers to molecular entities and compositions that are physiologically tolerable and do not typically produce an allergic or similar untoward reaction (for example, gastric upset, dizziness and the like) when administered to an individual. Preferably, and particularly where a vaccine is used in humans, the term "pharmaceutically acceptable" may mean approved by a regulatory agency (for example, the U.S. Food and Drug Agency) or listed in a generally recognized pharmacopeia for use in animals (for example, the U.S. Pharmacopeia).

The term "carrier" refers to a diluent, adjuvant, excipient, or vehicle with which a compound is administered. Sterile water or aqueous saline solutions and aqueous dextrose and glycerol solutions are preferably employed as carriers, particularly for injectable solutions. Exemplary suitable pharmaceutical carriers are described in "Remington's Pharmaceutical Sciences" by E.W. Martin.

Molecular Biology Definitions. In accordance with the present invention,

there may be employed conventional molecular biology, microbiology and recombinant DNA techniques within the skill of the art. Such techniques are explained fully in the literature. See, for example, Sambrook, Fitsch & Maniatis, *Molecular Cloning: A Laboratory Manual*, Second Edition (1989) Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York (referred to herein as "Sambrook *et al.*, 1989"); *DNA Cloning: A Practical Approach*, Volumes I and II (D.N. Glover ed. 1985); *Oligonucleotide Synthesis* (M.J. Gait ed. 1984); *Nucleic Acid Hybridization* (B.D. Hames & S.J. Higgins, eds. 1984); *Animal Cell Culture* (R.I. Freshney, ed. 1986); *Immobilized Cells and Enzymes* (IRL Press, 1986); B.E. Perbal, *A Practical Guide to Molecular Cloning* (1984); F.M. Ausubel *et al.* (eds.), *Current Protocols in Molecular Biology*, John Wiley & Sons, Inc. (1994).

The term "polymer" means any substance or compound that is composed of two or more building blocks ('mers') that are repetitively linked together. For example, a "dimer" is a compound in which two building blocks have been joined togther; a "trimer" is a compound in which three building blocks have been joined together; *etc.*

The term "polynucleotide" or "nucleic acid molecule" as used herein refers to a polymeric molecule having a backbone that supports bases capable of hydrogen bonding to typical polynucleotides, wherein the polymer backbone presents the bases in a manner to permit such hydrogen bonding in a specific fashion between the polymeric molecule and a typical polynucleotide (*e.g.*, single-stranded DNA). Such bases are typically inosine, adenosine, guanosine, cytosine, uracil and thymidine. Polymeric molecules include "double stranded" and "single stranded" DNA and RNA, as well as backbone modifications thereof (for example, methylphosphonate linkages).

Thus, a "polynucleotide" or "nucleic acid" sequence is a series of nucleotide bases (also called "nucleotides"), generally in DNA and RNA, and means any chain of two or more nucleotides. A nucleotide sequence frequently carries genetic information, including the information used by cellular machinery to make proteins and enzymes. The terms include genomic DNA, cDNA, RNA, any synthetic and genetically manipulated polynucleotide, and both sense and antisense polynucleotides. This includes single- and double-stranded molecules; *i.e.*, DNA-DNA, DNA-RNA, and RNA-RNA hybrids as well as "protein nucleic acids" (PNA) formed by conjugating bases to an amino acid backbone. This also includes

nucleic acids containing modified bases, for example, thio-uracil, thio-guanine and fluoro-uracil.

The polynucleotides herein may be flanked by natural regulatory sequences, or may be associated with heterologous sequences, including promoters, enhancers, response elements, signal sequences, polyadenylation sequences, introns, 5'- and 3'-non-coding regions and the like. The nucleic acids may also be modified by many means known in the art. Non-limiting examples of such modifications include methylation, "caps", substitution of one or more of the naturally occurring nucleotides with an analog, and internucleotide modifications such as, for example, those with uncharged linkages (*e.g.*, methyl phosphonates, phosphotriesters, phosphoroamidates, carbamates, *etc.*) and with charged linkages (*e.g.*, phosphorothioates, phosphorodithioates, *etc.*). Polynucleotides may contain one or more additional covalently linked moieties, such as proteins (*e.g.*, nucleases, toxins, antibodies, signal peptides, poly-L-lysine, *etc.*), intercalators (*e.g.*, acridine, psoralen, *etc.*), chelators (*e.g.*, metals, radioactive metals, iron, oxidative metals, *etc.*) and alkylators to name a few. The polynucleotides may be derivatized by formation of a methyl or ethyl phosphotriester or an alkyl phosphoramidite linkage. Furthermore, the polynucleotides herein may also be modified with a label capable of providing a detectable signal, either directly or indirectly. Exemplary labels include radioisotopes, fluorescent molecules, biotin and the like. Other non-limiting examples of modification which may be made are provided, below, in the description of the present invention.

A "polypeptide" is a chain of chemical building blocks called amino acids that are linked together by chemical bonds called "peptide bonds". The term "protein" refers to polypeptides that contain the amino acid residues encoded by a gene or by a nucleic acid molecule (*e.g.*, an mRNA or a cDNA) transcribed from that gene either directly or indirectly. Optionally, a protein may lack certain amino acid residues that are encoded by a gene or by an mRNA. For example, a gene or mRNA molecule may encode a sequence of amino acid residues on the N-terminus of a protein (*i.e.*, a signal sequence) that is cleaved from, and therefore may not be part of, the final protein. A protein or polypeptide, including an enzyme, may be a "native" or "wild-type", meaning that it occurs in nature; or it may be a "mutant", "variant" or "modified", meaning that it has been made, altered, derived, or is in some way different or changed from a native protein or from another mutant.

A "ligand" is, broadly speaking, any molecule that binds to another molecule. In preferred embodiments, the ligand is either a soluble molecule or the smaller of the two molecule or both. The other molecule is referred to as a "receptor". In preferred embodiments, both a ligand and its receptor are molecules (preferably proteins or polypeptides) produced by cells. Preferably, a ligand is a soluble molecule and the receptor is an integral membrane protein (*i.e.*, a protein expressed on the surface of a cell). In a particularly preferred embodiment of the invention the ligand is a fibroblast growth factor (FGF) and the receptor is a fibroblast growth factor receptor (FGFR).

The binding of a ligand to its receptor is frequently a step of signal transduction with a cell. For example, in preferred embodiments where a ligand is an FGF polypeptide and a receptor is an FGFR polypeptide, the binding of FGF to the FGFR polypeptide may lead to activation of a tyrosine kinase activity within the FGFR polypeptide. Activation of the tyrosine kinase activity may, in turn, initiate other activities associated with FGF signaling, including but not limited to mitogenesis and angiogensis. Other exemplary ligand-receptor interactions include, but are not limited to, binding of a hormone to a hormone receptor (for example, the binding of estrogen to the estrogen receptor) and the binding of a neurotransmitter to a receptor on the surface of a neuron.

"Amplification" of a polynucleotide, as used herein, denotes the use of polymerase chain reaction (PCR) to increase the concentration of a particular DNA sequence within a mixture of DNA sequences. For a description of PCR see Saiki *et al.*, *Science* 1988, 239:487.

"Chemical sequencing" of DNA denotes methods such as that of Maxam and Gilbert (Maxam-Gilbert sequencing; see Maxam & Gilbert, *Proc. Natl. Acad. Sci. U.S.A.* 1977, 74:560), in which DNA is cleaved using individual base-specific reactions.

"Enzymatic sequencing" of DNA denotes methods such as that of Sanger (Sanger *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1977, 74:5463) and variations thereof well known in the art, in a single-stranded DNA is copied and randomly terminated using DNA polymerase.

A "gene" is a sequence of nucleotides which code for a functional *"gene product"*. Generally, a gene product is a functional protein. However, a gene product can also be another type of molecule in a cell, such as an RNA (*e.g.*, a tRNA or a rRNA). For the

purposes of the present invention, a gene product also refers to an mRNA sequence which may be found in a cell. For example, measuring gene expression levels according to the invention may correspond to measuring mRNA levels. A gene may also comprise regulatory (*i.e.*, non-coding) sequences as well as coding sequences. Exemplary regulatory sequences include promoter sequences, which determine, for example, the conditions under which the gene is expressed. The transcribed region of the gene may also include untranslated regions including introns, a 5'-untranslated region (5'-UTR) and a 3'-untranslated region (3'-UTR).

A "coding sequence" or a sequence "encoding" an expression product, such as a RNA, polypeptide, protein or enzyme, is a nucleotide sequence that, when expressed, results in the production of that RNA, polypeptide, protein or enzyme; *i.e.*, the nucleotide sequence "encodes" that RNA or it encodes the amino acid sequence for that polypeptide, protein or enzyme.

A "promoter sequence" is a DNA regulatory region capable of binding RNA polymerase in a cell and initiating transcription of a downstream (3' direction) coding sequence. For purposes of defining the present invention, the promoter sequence is bounded at its 3' terminus by the transcription initiation site and extends upstream (5' direction) to include the minimum number of bases or elements necessary to initiate transcription at levels detectable above background. Within the promoter sequence will be found a transcription initiation site (conveniently found, for example, by mapping with nuclease S1), as well as protein binding domains (consensus sequences) responsible for the binding of RNA polymerase.

A coding sequence is "under the control of" or is "operatively associated with" transcriptional and translational control sequences in a cell when RNA polymerase transcribes the coding sequence into RNA, which is then trans-RNA spliced (if it contains introns) and, if the sequence encodes a protein, is translated into that protein.

The term "express" and "expression" means allowing or causing the information in a gene or DNA sequence to become manifest, for example producing RNA (such as rRNA or mRNA) or a protein by activating the cellular functions involved in transcription and translation of a corresponding gene or DNA sequence. A DNA sequence is expressed by a cell to form an "expression product" such as an RNA (*e.g.*, a mRNA or a rRNA) or a protein. The expression product itself, *e.g.*, the resulting RNA or protein, may

also said to be "expressed" by the cell.

The term "transfection" means the introduction of a foreign nucleic acid into a cell. The term "transformation" means the introduction of a "foreign" (*i.e.*, extrinsic or extracellular) gene, DNA or RNA sequence into a host cell so that the host cell will express the introduced gene or sequence to produce a desired substance, in this invention typically an RNA coded by the introduced gene or sequence, but also a protein or an enzyme coded by the introduced gene or sequence. The introduced gene or sequence may also be called a "cloned" or "foreign" gene or sequence, may include regulatory or control sequences (*e.g.*, start, stop, promoter, signal, secretion or other sequences used by a cell's genetic machinery). The gene or sequence may include nonfunctional sequences or sequences with no known function. A host cell that receives and expresses introduced DNA or RNA has been "transformed" and is a "transformant" or a "clone". The DNA or RNA introduced to a host cell can come from any source, including cells of the same genus or species as the host cell or cells of a different genus or species.

The terms "vector", "cloning vector" and "expression vector" mean the vehicle by which a DNA or RNA sequence (*e.g.*, a foreign gene) can be introduced into a host cell so as to transform the host and promote expression (*e.g.*, transcription and translation) of the introduced sequence. Vectors may include plasmids, phages, viruses, *etc.* and are discussed in greater detail below.

A "cassette" refers to a DNA coding sequence or segment of DNA that codes for an expression product that can be inserted into a vector at defined restriction sites. The cassette restriction sites are designed to ensure insertion of the cassette in the proper reading frame. Generally, foreign DNA is inserted at one or more restriction sites of the vector DNA, and then is carried by the vector into a host cell along with the transmissible vector DNA. A segment or sequence of DNA having inserted or added DNA, such as an expression vector, can also be called a "DNA construct." A common type of vector is a "plasmid", which generally is a self-contained molecule of double-stranded DNA, usually of bacterial origin, that can readily accept additional (foreign) DNA and which can readily introduced into a suitable host cell. A large number of vectors, including plasmid and fungal vectors, have been described for replication and/or expression in a variety of eukaryotic and prokaryotic hosts. The term "host cell" means any cell of any organism that is selected, modified,

transformed, grown or used or manipulated in any way for the production of a substance by the cell. For example, a host cell may be one that is manipulated to express a particular gene, a DNA or RNA sequence, a protein or an enzyme. Host cells can further be used for screening or other assays that are described *infra*. Host cells may be cultured *in vitro* or one or more cells in a non-human animal (*e.g.*, a transgenic animal or a transiently transfected animal).

The term "expression system" means a host cell and compatible vector under suitable conditions, *e.g.* for the expression of a protein coded for by foreign DNA carried by the vector and introduced to the host cell. Common expression systems include *E. coli* host cells and plasmid vectors, insect host cells such as Sf9, Hi5 or S2 cells and *Baculovirus* vectors, Drosophila cells (Schneider cells) and expression systems, and mammalian host cells and vectors.

The term "heterologous" refers to a combination of elements not naturally occurring. For example, the present invention includes chimeric RNA molecules that comprise an rRNA sequence and a heterologous RNA sequence which is not part of the rRNA sequence. In this context, the heterologous RNA sequence refers to an RNA sequence that is not naturally located within the ribosomal RNA sequence. Alternatively, the heterologous RNA sequence may be naturally located within the ribosomal RNA sequence, but is found at a location in the rRNA sequence where it does not naturally occur. As another example, heterologous DNA refers to DNA that is not naturally located in the cell, or in a chromosomal site of the cell. Preferably, heterologous DNA includes a gene foreign to the cell. A heterologous expression regulatory element is a regulatory element operatively associated with a different gene that the one it is operatively associated with in nature.

The terms "mutant" and "mutation" mean any detectable change in genetic material, *e.g.*, DNA, or any process, mechanism or result of such a change. This includes gene mutations, in which the structure (*e.g.*, DNA sequence) of a gene is altered, any gene or DNA arising from any mutation process, and any expression product (*e.g.*, RNA, protein or enzyme) expressed by a modified gene or DNA sequence. The term "variant" may also be used to indicate a modified or altered gene, DNA sequence, RNA, enzyme, cell, *etc.*; *i.e.*, any kind of mutant. For example, the present invention relates to altered or "chimeric" RNA molecules that comprise an rRNA sequence that is altered by inserting a heterologous RNA

sequence that is not naturally part of that sequence or is not naturally located at the position of that rRNA sequence. Such chimeric RNA sequences, as well as DNA and genes that encode them, are also referred to herein as "mutant" sequences.

"Sequence-conservative variants" of a polynucleotide sequence are those in which a change of one or more nucleotides in a given codon position results in no alteration in the amino acid encoded at that position.

"Function-conservative variants" of a polypeptide or polynucleotide are those in which a given amino acid residue in the polypeptide, or the amino acid residue encoded by a codon of the polynucleotide, has been changed or altered without altering the overall conformation and function of the polypeptide. For example, function-conservative variants may include, but are not limited to, replacement of an amino acid with one having similar properties (for example, polarity, hydrogen bonding potential, acidic, basic, hydrophobic, aromatic and the like). Amino acid residues with similar properties are well known in the art. For example, the amino acid residues arginine, histidine and lysine are hydrophilic, basic amino acid residues and may therefore be interchangeable. Similar, the amino acid residue isoleucine, which is a hydrophobic amino acid residue, may be replaced with leucine, methionine or valine. Such changes are expected to have little or no effect on the apparent molecular weight or isoelectric point of the polypeptide. Amino acid residues other than those indicated as conserved may also differ in a protein or enzyme so that the percent protein or amino acid sequence similarity (*e.g.*, percent identity or homology) between any two proteins of similar function may vary and may be, for example, from 70% to 99% as determined according to an alignment scheme such as the Cluster Method, wherein similarity is based on the MEGALIGN algorithm. "Function-conservative variants" of a given polypeptide also include polypeptides that have at least 60% amino acid sequence identity to the given polypeptide as determined, *e.g.*, by the BLAST or FASTA algorithms. Preferably, function-conservative variants of a given polypeptide have at least 75%, more preferably at least 85% and still more preferably at least 90% amino acid sequence identity to the given polypeptide and, preferably, also have the same or substantially similar properties (*e.g.*, of molecular weight and/or isoelectric point) or functions (*e.g.*, biological functions or activities) as the native or parent polypeptide to which it is compared.

Thus, for example, in particular embodiments wherein the polypeptides are

FGFR polypeptides, function-conservative variants may not only have between at least 75% and at least 90% amino acid sequence identity to a given FGFR, but preferably also have similar properties, such as conserved domains (*e.g.*, as in a D1, D2 or D3 domain, described *supra*) and/or similar biological function or activities, such as a tyrosine kinase activity and/or the ability to stimulate activities associated with FGF signaling (*e.g.*, mitogenesis or angiogenesis).

Similarly, in embodiments wherein a polypeptide is an FGF ligand, function-conservative variants may not only have between at least 75% and at least 90% amino acid sequence identity to a given FGF, but preferably also have similar properties. For example, a function-conservative variant of an FGF ligand preferably binds to the same FGF receptor as the FGF ligand (preferably, but not necessarily with the same or a similar affinity; *e.g.*, preferably with at least 50% of the binding affinity, more preferably with at least 70% of the binding affinity, and still more preferably with at least 80% or at least 90% of the binding affinity). Preferably, by binding to the FGFR polypeptide, a function-conservative variant will also stimulate a same biological function or activity that is associated with binding of the FGF ligand to the receptor, including any of the functions or activities described, *supra*, for an FGF receptor.

The term "homologous", in all its grammatical forms and spelling variations, refers to the relationship between two proteins that possess a "common evolutionary origin", including proteins from superfamilies (*e.g.*, the immunoglobulin superfamily) in the same species of organism, as well as homologous proteins from different species of organism (for example, myosin light chain polypeptide, *etc.*; see, Reeck *et al.*, Cell 1987, 50:667). Homologous proteins of the invention therefore include various FGF proteins and polypeptides derived from the same species of organism (*i.e.*, the FGF family of polypeptides, including FGF1-FGF22), and also FGF proteins and polypeptides derived from different species of organisms. Similarly, homologous proteins of the invention also include various FGFR proteins and polypeptides derived from the same species (*i.e.*, the FGFR family, including FGFR1-4) or from different species of organisms.

Such proteins (and their encoding nucleic acids) have sequence homology, as reflected by their sequence similarity, whether in terms of percent identity or by the presence of specific residues or motifs and conserved positions. For instance, referring again to

particular embodiments where homologous polypeptides are FGF and/or FGFR polypeptides, homologous polypeptides in either the same or in closely related species of organisms (for example, between mammals such as mice and humans) typically share greater than 50% sequence identity, more preferably share at least about 60 to 65% sequence identity, and still more preferably share at least about 75% to 80% sequence identity. Homologous polypeptides between closely related species of organisms may also be cross reactive in both species of organisms. For example, an FGF from one species of organism may bind to and/or activate an FGF receptor polypeptide from a different species of organism and, moreover, an FGF receptor from a first species of organism may stimulate a activity associated with FGF signalling (*e.g.*, mitogenesis or angiogenesis) in a cell from a different species of organism (for example, when the heterologous FGFR polypeptide is recombinantly expressed in that cell).

By contrast, FGF and/or FGFR polypeptides between more divergent species of organisms share less sequence identity and generally are not cross reactive in both species. For example, homologous polypeptides between divergent species of organisms typically share less than 50% sequence identity, and may share only 25% sequence identity. However, homologous polypeptides between divergent species preferably share a higher level of sequence identity, such as between about 35% to 45% sequence identity.

The term "sequence similarity", in all its grammatical forms, refers to the degree of identity or correspondence between nucleic acid or amino acid sequences that may or may not share a common evolutionary origin (see, Reeck *et al.*, *Cell* 1987, 50:667). However, in common usage and in the instant application, the term "homologous", particularly when modified with an adverb such as "highly", may refer to sequence similarity and may or may not relate to a common evolutionary origin.

In specific embodiments, two nucleic acid sequences are "substantially homologous" or "substantially similar" when at least about 80%, and more preferably at least about 90% or at least about 95% of the nucleotides match over a defined length of the nucleic acid sequences, as determined by a sequence comparison algorithm known such as BLAST, FASTA, DNA Strider, CLUSTAL, *etc.* An example of such a sequence is an allelic or species variant of the specific genes of the present invention. Sequences that are substantially homologous may also be identified by hybridization, *e.g.*, in a Southern hybridization

experiment under, *e.g.*, stringent conditions as defined for that particular system.

Similarly, in particular embodiments of the invention, two amino acid sequences are "substantially homologous" or "substantially similar" when greater than 80% of the amino acid residues are identical, or when greater than about 90% of the amino acid residues are similar (*i.e.*, are functionally identical). Preferably the similar or homologous polypeptide sequences are identified by alignment using, for example, the GCG (Genetics Computer Group, Program Manual for the GCG Package, *Version 7*, Madison Wisconsin) pileup program, or using any of the programs and algorithms described above (*e.g.*, BLAST, FASTA, CLUSTAL, *etc.*).

As used herein, the term "oligonucleotide" refers to a nucleic acid, generally of at least 10, preferably at least 15, and more preferably at least 20 nucleotides, preferably no more than 100 nucleotides, that is hybridizable to a genomic DNA molecule, a cDNA molecule, or an mRNA molecule encoding a gene, mRNA, cDNA, or other nucleic acid of interest. Oligonucleotides can be labeled, *e.g.*, with ^{32}P-nucleotides or nucleotides to which a label, such as biotin or a fluorescent dye (for example, Cy3 or Cy5) has been covalently conjugated. In one embodiment, a labeled oligonucleotide can be used as a probe to detect the presence of a nucleic acid. In another embodiment, oligonucleotides (one or both of which may be labeled) can be used as PCR primers; *e.g.* for cloning full length or a fragment of either an FGF or an FGFR nucleic acid, or to detect the presence of nucleic acids encoding either an FGF or an FGFR polypeptide. Generally, oligonucleotides are prepared synthetically, preferably on a nucleic acid synthesizer. Accordingly, oligonucleotides can be prepared with non-naturally occurring phosphoester analog bonds, such as thioester bonds, *etc.*

Specific non-limiting examples of synthetic oligonucleotides envisioned for this invention include, in addition to the nucleic acid moieties described above, oligonucleotides that contain phosphorothioates, phosphotriesters, methyl phosphonates, short chain alkyl, or cycloalkyl intersugar linkages or short chain heteroatomic or heterocyclic intersugar linkages. Most preferred are those with CH_2-NH-O-CH_2, CH_2-N(CH_3)-O-CH_2, CH_2-O-N(CH_3)-CH_2, CH_2-N(CH_3)-N(CH_3)-CH_2 and O-N(CH_3)-CH_2-CH_2 backbones (where phosphodiester is O-PO_2-O-CH_2). US Patent No. 5,677,437 describes heteroaromatic olignucleoside linkages. Nitrogen linkers or groups containing nitrogen can also be used to

prepare oligonucleotide mimics (U.S. Patents Nos. 5,792,844 and 5,783,682). US Patent No. 5,637,684 describes phosphoramidate and phosphorothioamidate oligomeric compounds. Also envisioned are oligonucleotides having morpholino backbone structures (U.S. Pat. No. 5,034,506). In other embodiments, such as the peptide-nucleic acid (PNA) backbone, the phosphodiester backbone of the oligonucleotide may be replaced with a polyamide backbone, the bases being bound directly or indirectly to the aza nitrogen atoms of the polyamide backbone (Nielsen *et al.*, Science 254:1497, 1991). Other synthetic oligonucleotides may contain substituted sugar moieties comprising one of the following at the 2' position: OH, SH, SCH_3, F, OCN, $O(CH_2)_nNH_2$ or $O(CH_2)_nCH_3$ where n is from 1 to about 10; C_1 to C_{10} lower alkyl, substituted lower alkyl, alkaryl or aralkyl; Cl; Br; CN; CF_3; OCF_3; O-; S-, or N-alkyl; O-, S-, or N-alkenyl; $SOCH_3$; SO_2CH_3; ONO_2;NO_2; N_3; NH_2; heterocycloalkyl; heterocycloalkaryl; aminoalkylamino; polyalkylamino; substitued silyl; a fluorescein moiety; an RNA cleaving group; a reporter group; an intercalator; a group for improving the pharmacokinetic properties of an oligonucleotide; or a group for improving the pharmacodynamic properties of an oligonucleotide, and other substituents having similar properties. Oligonucleotides may also have sugar mimetics such as cyclobutyls or other carbocyclics in place of the pentofuranosyl group. Nucleotide units having nucleosides other than adenosine, cytidine, guanosine, thymidine and uridine, such as inosine, may be used in an oligonucleotide molecule.

A nucleic acid molecule is "hybridizable" to another nucleic acid molecule, such as a cDNA, genomic DNA, or RNA, when a single stranded form of the nucleic acid molecule can anneal to the other nucleic acid molecule under the appropriate conditions of temperature and solution ionic strength (*see* Sambrook *et al.*, *supra*). The conditions of temperature and ionic strength determine the "stringency" of the hybridization. For preliminary screening for homologous nucleic acids, low stringency hybridization conditions, corresponding to a T_m (melting temperature) of 55°C, can be used, *e.g.*, 5x SSC, 0.1% SDS, 0.25% milk, and no formamide; or 30% formamide, 5x SSC, 0.5% SDS). Moderate stringency hybridization conditions correspond to a higher T_m, *e.g.*, 40% formamide, with 5x or 6x SCC. High stringency hybridization conditions correspond to the highest T_m, *e.g.*, 50% formamide, 5x or 6x SCC. SCC is a 0.15M NaCl, 0.015M Na-citrate. Hybridization requires that the two nucleic acids contain complementary sequences, although depending on

the stringency of the hybridization, mismatches between bases are possible. The appropriate stringency for hybridizing nucleic acids depends on the length of the nucleic acids and the degree of complementation, variables well known in the art. The greater the degree of similarity or homology between two nucleotide sequences, the greater the value of T_m for hybrids of nucleic acids having those sequences. The relative stability (corresponding to higher T_m) of nucleic acid hybridizations decreases in the following order: RNA:RNA, DNA:RNA, DNA:DNA. For hybrids of greater than 100 nucleotides in length, equations for calculating T_m have been derived (*see* Sambrook *et al.*, *supra*, 9.50-9.51). For hybridization with shorter nucleic acids, *i.e.*, oligonucleotides, the position of mismatches becomes more important, and the length of the oligonucleotide determines its specificity (*see* Sambrook *et al.*, *supra*, 11.7-11.8). A minimum length for a hybridizable nucleic acid is at least about 10 nucleotides; preferably at least about 15 nucleotides; and more preferably the length is at least about 20 nucleotides.

In a specific embodiment, the term "standard hybridization conditions" refers to a T_m of 55°C, and utilizes conditions as set forth above. In a preferred embodiment, the T_m is 60°C; in a more preferred embodiment, the T_m is 65°C. In a specific embodiment, "high stringency" refers to hybridization and/or washing conditions at 68°C in 0.2XSSC, at 42°C in 50% formamide, 4XSSC, or under conditions that afford levels of hybridization equivalent to those observed under either of these two conditions.

Suitable hybridization conditions for oligonucleotides (*e.g.*, for oligonucleotide probes or primers) are typically somewhat different than for full-length nucleic acids (*e.g.*, full-length cDNA), because of the oligonucleotides' lower melting temperature. Because the melting temperature of oligonucleotides will depend on the length of the oligonucleotide sequences involved, suitable hybridization temperatures will vary depending upon the oligoncucleotide molecules used. Exemplary temperatures may be 37 °C (for 14-base oligonucleotides), 48 °C (for 17-base oligoncucleotides), 55 °C (for 20-base oligonucleotides) and 60 °C (for 23-base oligonucleotides). Exemplary suitable hybridization conditions for oligonucleotides include washing in 6x SSC/0.05% sodium pyrophosphate, or other conditions that afford equivalent levels of hybridization.

X-ray crystallography. The present invention also uses techniques of

conventional X-ray crystallography. These techniques are well known and are within the routine skill of the art. Such techniques are described more fully in the literature. See, for example, Cantor&Schimmel, *Biophysical Chemistry* 1980 (Vols. I-III) W. H. Freeman and Company (particularly Chapters 1- 13 in Vol. I, and Chapter 13 in Vol. II). See, also, *Macromolecular Crystallography, Parts A-B* (Carter&Sweet, Eds.) In: *Methods Enzymol.* 1997, Vols. 276-277; Jan Drenth, *Principles of Protein X-Ray Crystallography* (New York: Springer-Verlag, 1994).

The term "crystal" refers, generally, to any ordered (or at least partially ordered) three-dimensional array of molecules. Preferably, the ordering of molecules within a crystal is at least sufficient to produce a sharp X-ray diffraction pattern so that the molecules' three-dimensional structure may be determined.

The molecules in a crystal may be of any type, and it will be understood that a crystal may contain molecules of only one type or may comprise a plurality of different types of molecules. In preferred embodiments, crystals of the present invention comprise at least one biomolecule, such as a protein, or a fragment thereof. Crystals of the invention may even comprise a complex or assembly of two or more proteins or other biomolecules. For example, a crystal may comprise two different proteins, such as a receptor and a ligand, or a crystal may comprise two more molecules of the same protein bound together, *e.g.*, to form a dimer or other multimer complex. Typically, crystals that contain biological molecules such as proteins will contain other molecules as well, such molecules of solvent (*e.g.*, water molecules) and/or salt. Other molecules such as drugs, drug candidates or compounds that bind to the protein may also be present in a crystal.

It will be understood by a skilled artisan that crystals of the invention comprises a "unit cell", or basic parallelepiped shaped block defined by vectors denoted **a**, **b** and **c**. The entire volume of a crystal may be constructed by the regular assembly of such blocks or "lattices". A crystal is also defined by the overall symmetry of elements (*i.e.*, molecules) within the cell, which is referred to as the "space group." Thus, a crystal's space group is defined by symmetry relations within the molecules making up the unit cell. The "asymmetric unit" is the smallest possible unit from which the crystal structure may be generated by making use of the symmetric relations defining the space group.

The term "structure coordinates" or "structure" refers to mathematical

coordinates that define the position of atoms in a molecule or in an assembly of molecules in three-dimensional space (for example, within the asymmetric unit of a crystal). Structure coordinates may be computed or otherwise determined using any information related to the three dimensional arrangement of atoms in a molecule. However, in preferred embodiments of the invention a structure is derived from equations that are related to patterns obtained on diffraction of a monochromatic beam of X-rays by the atoms (which, in such embodiments, may also be referred to as "scattering centers") in a crystal. Typically, such diffraction data is used to calculate an "electron density" map of the crystal's asymmetric unit, and these maps are used, in turn, to establish positions of the individual atoms.

"Heavy atom derivatization" refers to a method of producing chemically modified forms of a crystal (typically a crystal of a protein or other biopolymer), in which the crystal may be soaked in a solution containing heavy metal atom salts or organometallic compounds that can diffuse through the crystal and bind to the surface of the protein or biopolymer. The location(s) of one or more heavy meatl atoms in the crystal may then be determined by X-ray diffraction analysis of the soaked crystal, and this information may be used to facilitate construction of the three-dimension structure of the protein or other molecules contained in the crystal.

"Molecular replacement" refers to a method wherein a preliminary structure coordinates are generated for molecules in a crystal whose structure coordinates are not known. Generally, molecular replacement involves orienting and/or positioning another, preferably similar molecule (such as a homologous protein) whose structure coordinates are known. Phases for an X-ray diffraction pattern may then be determined for the preliminary structure, and these phases can then be combined with actual X-ray diffraction intensities that are observed for the crystal whose structure coordinates are not known, to determine its structure.

FGF Ligands

FGF Polypeptides. The present invention relates to polypeptides known as fibroblast growth factor (FGF) polypeptides or, alternatively, as FGF ligands. FGF polypeptides are well known in the art and have been described, *e.g.*, by Mckeehan *et al.*, (*Progress in Nucleic Acid Research and Molecular Biology* 1998, 59:135-176). See, also,

Nishimura *et al.*, *Biochim. Biophys. Acta* 2000, 1492:203-206; and Yamashita *et al.*, *Biochem. Biophys. Res. Commun.* 2000; 277:494-498. Structurally, all FGF's share a common core domain consisting of about 120 amino acids, which fold into three copies of four-stranded β-sheets known as a β-trefoil fold.

The amino acid sequence of one, exemplary FGF polypeptide, known as FGF2, is set forth here in **FIG. 1A** and in SEQ ID NO:1. The FGF2 polypeptide sequence is also available from GenBank and has the Accession No. P09038 (GI:122742). The β-trefoil domain corresponds to approximately amino acid residues 28-152 of this FGF2 polypeptide sequence. The FGF2 amino acid sequence shown in **FIG. 1A** (SEQ ID NO:1) represents the "pre-cursor" form of the FGF2 polypeptide. This precursor is ordinarily processed by the cell and secreted as a "mature" FGF2 polypeptide comprising amino acid residues 10-155 of SEQ ID NO:1.

The amino acid sequence of a second exemplary FGF polypeptide known as FGF1 is also set forth here, in **FIG. 16A** and in SEQ ID NO:5. The FGF1 polypeptide is also known in the art as the acidic FGF or "aFGF", and its sequence is available from GenBank under the Accession No. NP_000791 (GI:4503697). The FGF1 amino acid sequence shown in **FIG. 16A** (SEQ ID NO:5) represents the "pre-cursor" form of the FGF1 polypeptide. This precursor is ordinarily processed by the cell and secreted as a "mature" FGF1 polypeptide comprising amino acid residues 16-155 of SEQ ID NO:5

Numerous variants, including FGF homologs and orthologs from the same and different species of organisms are also known in the art and/or may be readily identified. Such variants may also be used in the methods and compositions of this invention. For example, at least 22 homologous human FGF polypeptides, referred to as FGF1-FGF22, are believed to exist. The FGF polypeptides of the invention therefore include each of these human homologs, and also include homologous or orthologous polypeptides isolated from other species of organisms, particularly other mammalian species such as mouse or rat. Sequences that are substantially homologous to known FGF polypeptide sequences (*e.g.*, to the FGF2 sequence shown in **FIG. 1A** and in SEQ ID NO:1 or to the FGF1 sequence in **FIG. 16A** and in SEQ ID NO:5) can be readily identified by comparing the sequences using standard software packages available in sequence data banks, including the BLAST algorithms (*e.g.*, BLASTP, BLASTN, BLASTX, *etc.*), FASTA, DNA Strider, the GCG pileup

program, CLUSTAL and other such programs that are known in the art or are described herein.

Thus, for example, FGF polypeptides of the invention also include ones encoded by nucleic acids that hybridize to the complement of a nucleic acid molecule encoding an FGF polypeptide (*e.g.*, in a Southern hybridization experiment under defined conditions). For example, in particular embodiments an FGF polypeptide may comprise an amino acid sequence encoded by nucleic acid molecules that hybridize to the complement of an FGF2 nucleic acid sequence, such as the coding sequence set forth in **FIG. 1B** (SEQ ID NO:2), under highly stringent conditions that comprise 50% formamide in 5x or 6x SSC. In other embodiments, the FGF polypeptide may comprise an amino acid sequence encoded by nucleic acid molecules that hybridize to a complement of an FGF2 nucleic acid sequence (*e.g.*, the coding sequence in **FIG.1B** and SEQ ID NO:2) under moderately stringent hybridization conditions (for example, 40% formamide with 5x or 6x SSC), or under low stringency conditions (for example, in 5x SSC, 0.1% SDS, 0.25% milk, no formamide, 30% formamide, 5x SSC, or 0.5% SDS). Similarly, FGF polypeptides of the invention also encompass ones encoded by nucleic acids that hybridize to the complement of an FGF1 nucleic acid sequence, such as the coding sequence set forth in **FIG. 16B** (SEQ ID NO:6) under the same conditions.

In still other embodiments, FGF polypeptides can also be identified by isolating homologous or variant FGF genes, *e.g.*, by PCR using degenerate oligonucleotide primers designed on the basis of a given FGF polypeptide sequence and as described below.

FGF polypeptides of the invention also include polypeptides that comprise one or more partial or fragment FGF amino acid sequences; *i.e.* a portion or fragment of a full length FGF amino acid sequence such as the full length FGF2 sequence shown in **FIG. 1A** (SEQ ID NO:1) or, alternatively, a portion or fragment of the full length FGF1 sequence shown in **FIG. 16A** (SEQ ID NO:5). Such partial FGF polypeptides may comprise, for example, an amino acid sequence of one or more epitopes or domains of a full length FGF polypeptide, such as epitopes or domains of a full length FGF2 polypeptide set forth in **FIG. 1B** (SEQ ID NO:2) or, alternatively, of a full length FGF1 polypeptide set forth in **FIG. 16A** (SEQ ID NO:5). An epitope of an FGF polypeptide represents a site on the polypeptide against which an antibody may be produced and to which the antibody binds. Therefore,

polypeptides comprising the amino acid sequence of an FGF epitope are useful for making antibodies to the FGF polypeptide. Preferably, an epitope comprises a sequence of at least 5, more preferably at least 10, 15, 20, 25 or 50 amino acid residues in length. Thus, polypeptides of the invention that comprise epitopes of an FGF polypeptide preferably contain an amino acid sequence corresponding to at least 5, at least 10, at least 15, at least 20, at least 25 or at least 50 amino acid residues of a full length FGF polypeptide sequence. For example, in certain preferred embodiments wherein the epitope is an epitope of a full length FGF2 polypeptide (SEQ ID NO:1), an FGF polypeptide of the invention preferably comprises an amino acid sequence corresponding to at least 5, at least 10, at least 15, at least 20, at least 25 or at least 50 amino acid residues of the FGF2 sequence set forth in **FIG. 1A** (SEQ ID NO:1). Similarly, in embodiments where the epitope is an epitope to a full length FGF1 polypeptide (SEQ ID NO:5), an FGF polypeptide of the invention can comprise an amino acid sequence corresponding to at least 5, at least 10, at least 15, at least 20, at least 25 or at least 50 amino acid residues of the FGF1 sequence set forth in **FIG. 16A** (SEQ ID NO:5).

Truncated forms of an FGF polypeptide can also be provided. Such truncated forms may include an FGF polypeptide with a specific deletion of amino acid residues. For instance, in certain embodiments amino acid residues corresponding to one or more domains of a full length FGF polypeptide may be deleted from the amino acid sequence of an FGF polypeptide.

The FGF polypeptides of this invention include, in addition to naturally occurring homologs and orthologs of an FGF polypeptide such as FGF2 (SEQ ID NO:1) and FGF1 (SEQ ID NO:5), but also include analogs and derivatives of an FGF polypeptide. Such analogs and derivatives may be ones that are naturally occurring (such as allelic variants), or may be man made (such as fusion proteins). However, analogs and derivatives of an FGF polypeptide of this invention will have the same or homologous characteristics of FGF polypeptides set forth above.

An FGF chimeric or fusion polypeptide may also be prepared in which the FGF portion of the fusion polypeptide has one or more characteristics of the FGF polypeptide. Such fusion polypeptides therefore represent alternative embodiments of the FGF polypeptides of this invention. Exemplary FGF fusion polypeptides include ones which comprise a full length, derivative or truncated FGF amino acid sequence, as well as fusions

which comprise a fragment of an FGF polypeptide sequence (*e.g.*, a fragment corresponding to an epitope or to one or more domains). Such fusion polypeptides may also comprise the amino acid sequence of a second, different polypeptide. For example, a fusion protein of the invention may comprise the amino acid sequence of a marker polypeptide; such as FLAG, a histidine tag, glutathione S-transferase (GST), or an Fc portion of an IgG. In other embodiments, an FGF polypeptide may be expressed with (*e.g.*, fused to) a bacterial protein such as β-galactosidase. Additionally, FGF fusion polypeptides may comprise amino acid sequences that increase solubility of the polypeptide, such as thioreductase amino acid sequence, or the sequence of one or more immunoglobulin proteins (*e.g.*, IgG1 or IgG2).

FGF analogs or variants can also be made by altering encoding nucleic acid molecules, for example by substitutions, additions or deletions. Preferably such altered nucleic acid molecules encode functionally similar molecules (*i.e.*, molecules that perform one or more functions of an FGF ligand and/or have one or more FGF bioactivities). Thus, in a specific embodiment, an analog or variant of an FGF ligand is a function-conservative analog or variant.

Amino acid residues, other than ones that are specifically identified herein as being conserved, may differ among variants of a protein or polypeptide. Accordingly, the percentage of protein or amino acid sequence similarity between any two FGF polypeptides of similar function may vary. Typically, the percentage of protein or amino acid sequence similarity between different FGF variants may be from 70% to 99%, as determined according to an alignment scheme such as the Cluster Method and/or the MEGALIGN or GCG alignment algorithm. "Function-conservative variants" also include polypeptides that have greater than or at least 20%, or greater than or at least 25%, preferably greater than or at least 45%, more preferably greater than or at least 50, 75, 85, 90 or 95% sequence similarity to a FGF polypeptide (such as FGF2, set forth in SEQ ID NO:1 and in **FIG. 1A**; or, alternatively, FGF1 set forth in SEQ ID NO:5 and in **FIG. 16A**) or to one or more fragments or domains thereof. Preferably, such function-conservative variants also have the same or similar properties, functions or bioactivities as the native polypeptide to which they are compared. It is further noted that function-conservative variants of the present invention include, not only variants of a full length FGF polypeptide, but also include function-conservative variants of modified FGF polypeptides (*e.g.*, truncations and deletions) and of fragments (*e.g.*,

corresponding to domains or epitopes) of full length FGF polypeptides.

In still other embodiments, an analog of an FGF polypeptide may be an allelic variant or mutant FGF polypeptide. The terms allelic variant and mutant, when used herein to describe a polypeptide, refer to a polypeptide encoded by an allelic variant or mutant gene. Thus, the allelic variant and mutant FGF polypeptides of the invention are polypeptides encoded by allelic variants or mutants of an FGF nucleic acid.(described *infra*).

FGF polypeptides of the invention also include derivative FGF polypeptides, which may be phosphorylated, myristylated, methylated or otherwise chemically modified. Such derivative FGF polypeptides also include labeled variants; for example, radio-labeled with iodine, phosphorous or sulfur (see, *e.g.*, EP 372707 B) or FGF polypeptides labeled with other detetable molecules such as, but by no means limited to, biotin, a fluorescent dye (*e.g.*, Cy5 or Cy3), a chelating group complexed with a metal ion, a chromophore or fluorophore, a gold colloid, a particular such as a latex bead, or attached to a water soluble polymer.

Chemical modifications of a biologically active component or components of FGF nucleic acids or polypeptides may provide additional advantages under certain circumstances. See, for example, U.S. Patent No. 4,179,337 issued December 18, 1970 to Davis *et al.* Also, for a review see, Abuchowski *et al.*, in *Enzymes as Drugs* (J.S. Holcerberg & J. Roberts, eds.) 1981, pages 367-383. A review article describing protein \modification and fusion proteins is also found in Fracis, *Focus on Growth Factors* 1992, 3:4-10, Mediscript: Mountview Court, Friern Barnet Lane, London N20, OLD, UK.

While the above, exemplary variants and analogs of FGF polypeptides are described primarily in terms of the exemplary FGF polypepide, FGF2 (set forth in **FIG. 1A** and SEQ ID NO:1) and FGF1 (set forth in **FIG. 16A** and SEQ ID NO:5), it is understood that variant FGF polypeptides of the invention include other FGF polypeptides (*e.g.*, naturally occurring homologs and orthologs, described *supra*) having equivalent amino acid substitutions, deletions or insertions.

FGF nucleic acids. In general, an FGF nucleic acid molecule of the present invention comprises a nucleic acid sequence that encodes an FGF polypeptide (as defined, above, in this Subsection) or the complement of an FGF polypeptide encoding sequence. The invention also provides fragments of FGF encoding sequences and their complements, and

such sequences are also considered part of the FGF nucleic acid molecules of this invention. Thus, in one exemplary embodiment, an FGF nucleic acid molecule of the invention may encode the exemplary FGF2 polypeptide sequence set forth in **FIG. 1A** (SEQ ID NO:1), such as the particular FGF2 nucleic acid sequence that is depicted in **FIG. 1B** (*i.e.*, SEQ ID NO:2). In another exemplary embodiment, an FGF nucleic acid of the invention may encode the eemplary FGF1 polypeptide sequence set forth in **FIG. 16A** (SEQ ID NO:5), such as the particular FGF1 nucleic acid sequence shown in **FIG. 16B** (SEQ ID NO:6).

In still other embodiments, the FGF nucleic acid molecules of the invention comprise nucleic acid sequences that encode one or more domains of an FGF polypeptide.

The FGF nucleic acid molecules of the invention also include nucleic acids which comprise a sequence encoding one or more fragments of an FGF polypeptide. Such fragments include, for example, polynucleotides that encode an epitope of an FGF polypeptide; *e.g.*, nucleic acids that encode a sequence of at least 5, and more preferably at least 10, 15, 20, 25 or 50 amino acid residues of an FGF polypeptide sequence (for example, of the exemplary FGF2 polypeptide sequence set forth in **FIG. 1A** and in SEQ ID NO:1 or, alternatively, of the exemplary FGF1 polypeptide sequence in **FIG. 16A** and in SEQ ID NO:5).

As explained above, numerous variant FGF polypeptides are known in the art and may be readily identified by those skilled in the art, including homologous and orthologous polypeptides from the same and different species of organism. The FGF nucleic acid molecules of the invention therefore include nucleic acid molecule comprising coding sequences for variant FGF polypeptides (including allelic variants, analogs and homologous from the same or different species), as well as nucleic acid molecule comprising coding sequences for modified FGF polypeptides (*e.g.*, having amino acid substitutions, deletions or truncations). In preferred embodiments, such nucleic acid molecules have at least 50%, preferably at least 75% and more preferably at least 90% sequence identity to another FGF coding sequence, such as the exemplary FGF2 coding sequence set forth in **FIG. 1B** (SEQ ID NO:2) or, alternatively, the exemplary FGF1 coding sequence shown in **FIG. 16B** (SEQ ID NO:6).

In addition, the FGF nucleic acid molecules of the invention include nucleic acid molecules that hybridize to another FGF nucleic acid molecule, *e.g.*, in a Southern blot

assay under defined conditions. For example, in specific embodiments an FGF nucleic acid molecule of the invention comprises a nucleotide sequence which hybridizes to a complement of the exemplary FGF2 coding sequence set forth in **FIG. 1B** (SEQ ID NO:2) under highly stringent hybridization conditions that comprise 50% formamide and 5x or 6x SSC. In other embodiments, the nucleic acid molecules hybridize to a complement of an FGF nucleic acid sequence (*e.g.*, to the exemplary coding sequence set forth in **FIG. 1B** and in SEQ ID NO:2) under moderately stringent hybridization conditions (*e.g.*, in 5x SSC, 0.1% SDS, 0.25% milk, no formamide, 30% formamide, 5x SSC or 0.5% SDS). Similarly, an FGF nucleic acid of the invention may comprise a nucleotide sequence that hybridizes to a complement of the exemplary FGF1 coding sequence set forth in **FIG. 16B** (SEQ ID NO:6) under the same conditions. Alternatively, an FGF nucleic acid molecule may hybridize, under the same defined hybridization conditions, to the complement of a fragment of a nucleotide sequence encoding a full length FGF polypeptide.

In other embodiments, FGF nucleic acid molecules of the invention comprise fragments of a full length FGF nucleic acid sequence. Such nucleic acid fragments comprise a nucleotide sequence that corresponds to a sequence of at least 10 nucleotides, preferably at least 15 nucleotides and more preferably at least 20 nucleotides of a full length coding FGF nucleotide sequence. In specific embodiments, the fragments correspond to a portion (*e.g.*, of at least 10, 15, or 20 nucleotides) of the exemplary FGF2 coding sequence shown in **FIG. 1B** (SEQ ID NO:2) or of the exemplary FGF1 coding sequence shown in **FIG. 16B** (SEQ ID NO:6). In other embodiments, an FGF nucleic acid fragment may comprise sequences of at least 10, preferably at least 15, and more preferably at least 20 nucleotides that are complementary and/or hybridize to a full length FGF coding sequence (*e.g.*, the FGF2 coding sequence set forth in **FIG. 1B** and in SEQ ID NO:2, or the FGF1 coding sequence set forth in **FIG. 16B** and in SEQ ID NO:6) or to a fragment thereof.

Suitable hybridization conditions for such oligonucleotides are described *supra*, and include washing in 6x SSC/0.05% sodium pyrophosphate. Because the melting temperature of oligonucleotides will depend on the length of the oligonucleotide sequence, suitable hybridization temperatures may vary depending upon the oligonucleotide molecules used. Those skilled in the art will be able to select a suitable hybridization temperature using routine techniques described, *e.g.*, in any of the molecular biology references cited *supra*.

Exemplary temperatures will be 37 °C (*e.g.*, for 14-base oligonucleotides), 48 °C (*e.g.*, for 17-base oligonucleotides), 55 °C (*e.g.*, for 20-base oligonucleotides) and 60 °C (*e.g.*, for 23-base oligonucleotides).

Nucleic acid molecules comprising such fragments are useful, for example, as oligonucleotide probes and primers (*e.g.*, PCR primers) to detect and amplify other nucleic acid molecules encoding an FGF polypeptide, including genes that encode variant FGF polypeptides (including genes that encode homologous or orthologous FGF polypeptides from the same or different species of organism). Oligonucleotide fragments of the invention may also be used, *e.g.*, as antisense nucleic acids, triple helix forming oligonucleotides or as ribozymes (*e.g.*, to modulate levels of FGF gene expression or transcription in cells).

The nucleic acid molecules of the invention also include "chimeric" FGF nucleic acid molecules. Such chimeric nucleic acid molecules are polynucleotides which comprise at least one FGF nucleic acid sequence (which may be any of the full length or partial FGF nucleic acid sequences described above), and also at least one non-FGF nucleic acid sequence. For example, the non-FGF nucleic acid sequence may be a heterologous regulatory sequence (for example, a promoter sequence) that is derived from another, non-FGF gene and is not normally associated with a naturally occurring FGF gene. A non-FGF nucleic acid sequence of the invention may also be a coding sequence of another, non-FGF polypeptide such as FLAG, a histidine tag, glutathione S-transferase (GST), hemaglutinin, β-galactosidase, thioreductase or an immunoglobulin domain or domains (for example, an Fc region). In preferred embodiments, a chimeric nucleic acid molecule of the invention encodes an FGF fusion polypeptide of the invention.

FGF nucleic acid molecules of the invention, whether genomic DNA, cDNA or otherwise, can be isolated from any source including, for example, cDNA or genomic libraries derived from a cell or cell line from an organism that has a FGF gene. In the case of cDNA libraries, such libraries are preferably derived from a cell or cell line that expresses an FGF gene. Methods for obtaining FGF genes are well known in the art, as described above (see, *e.g.*, Sambrook *et al.*, 1989, *supra*).

The DNA may be obtained by standard procedures known in the art from cloned DNA (for example, from a DNA "library"), and preferably is obtained from a cDNA library prepared from tissues with high level expression of the protein (*e.g.*, from cells or

from tissue. In one preferred embodiment, the DNA is obtained from a "subtraction" library to enrich the library for cDNAs of genes specifically expressed by a particular cell type or under certain conditions. Use of such a subtraction library may increase the likelihood of isolating cDNA for a particular gene, such as a particular FGF gene. In still other embodiments, a library may be prepared by chemical synthesis, by cDNA cloning, or by the cloning of genomic DNA or fragments thereof purified from the desired cell (See, for example, Sambrook *et al.*, 1989, *supra*; Glover, D.M. ed., 1985, *DNA Cloning: A Practical Approach*, MRL Press, Ltd. Oxford, U.K. Vols. I and II).

In one embodiment, a cDNA library may be screened for an FGF nucleic acid by identifying cDNA inserts that encode a polypeptide which is homologous or substantially similar to an FGF polypeptide, such as the exemplary FGF2 polypeptide set forth in **FIG. 1A** (SEQ ID NO:1), the exemplary FGF1 polypeptide set forth in **FIG. 16A** (SEQ ID NO:5) or fragments thereof. Similarly, a cDNA library may be screened for an FGF nucleic acid by identifying cDNA inserts having a nucleic acid sequence that is homologous or substantially similar to an FGF nucleic acid sequence, such as the exemplary FGF2 nucleic acid sequence set forth in **FIG. 1B** (SEQ ID NO:2), the exemplary FGF1 nucleic acid sequence set forth in **FIG. 16B** (SEQ ID NO:6) or fragments thereof.

Clones derived from genomic DNA may contain regulatory and intron DNA regions in addition to coding regions. Clones derived from cDNA generally will not contain intron sequences. Whatever the source, the gene is preferably molecularly cloned into a suitable vector for propagation of the gene. Identification of the specific DNA fragment containing the desired FGF gene may be accomplished in a number of ways. For example, a portion of an FGF gene can be purified and labeled to prepare a labeled probe (Benton & Davis, *Science* 1977, 196:180; Grunstein & Hogness, *Proc. Natl. Acad. Sci. U.S.A.* 1975, 72:3961). Those DNA fragments with substantial homology to the probe (for example, an allelic variant from another individual, or a homologous FGF gene from the same or a different species of organism) will hybridize. In a specific embodiment, highest stringency hybridization conditions are used to identify a homologous FGF gene. However, lower (*e.g.*, moderate) hybridization conditions may also be used.

Further selection can be carried out on the basis of the properties of the FGF gene product, *e.g.*, if the gene encodes a protein product having the isoelectric,

electrophoretic, amino acid composition, partial or complete amino acid sequence, antibody binding activity, or ligand binding profile of a FGF polypeptide. Thus, the presence of the gene may be detected by assays based on the physical, chemical, immunological, or functional properties of its expressed product.

Other DNA sequences which encode substantially the same amino acid sequence as a FGF gene may be used in the practice of the present invention. These include but are not limited to allelic variants, species variants, sequence conservative variants, and functional variants. In particular, the nucleic acid sequences of the invention include both "function-conservative variants" and "sequence-conservative variants". Nucleic acid substitutions may be made for example, to alter the amino acid residue encoded by a particular codon, and thereby substitute an amino acid in a FGF polypeptide for one with a particularly preferable property. For example, a Cysteine amino acid residue may be introduced at a potential site for disulfide bridges with another Cysteine amino acid residue. Conversely, an amino acid residue, for example a Serine amino acid residue, may be substituted for a Cysteine amino acid residue in an FGF polypeptide. Such substitutions may be useful, for example, to facilitate solubilization of a recombinant FGF polypeptide.

The genes encoding FGF derivatives and analogs of the invention can be produced by various methods known in the art. The manipulations which result in their production can occur at the gene or protein level. For example, the cloned FGF gene sequence can be modified by any of numerous strategies known in the art (Sambrook *et al.*, 1989, *supra*). The sequence can be cleaved at appropriate sites with restriction endonuclease(s), followed by further enzymatic modification if desired, isolated, and ligated *in vitro*. In the production of the gene encoding a derivative or analog of FGF, care should be taken to ensure that the modified gene remains within the same translational reading frame as the original FGF gene, uninterrupted by translational stop signals, in the gene region where the desired activity is encoded.

Additionally, the FGF-encoding nucleic acid sequence can be mutated *in vitro* or *in vivo*, to create and/or destroy translation, initiation, and/or termination sequences, or to create variations in coding regions and/or form new restriction endonuclease sites or destroy preexisting ones, to facilitate further *in vitro* modification. Modifications can also be made to introduce restriction sites and facilitate cloning the FGF gene into an expression vector. Any

technique for mutagenesis known in the art can be used, including but not limited to, *in vitro* site-directed mutagenesis (Hutchinson, C., *et al.*, J. Biol. Chem. 253:6551, 1978; Zoller and Smith, DNA 3:479-488, 1984; Oliphant *et al.*, Gene 44:177, 1986; Hutchinson *et al.*, Proc. Natl. Acad. Sci. U.S.A. 83:710, 1986), use of TAB" linkers (Pharmacia), *etc.* PCR techniques are preferred for site directed mutagenesis (see Higuchi, 1989, "Using PCR to Engineer DNA", in *PCR Technology: Principles and Applications for DNA Amplification*, H. Erlich, ed., Stockton Press, Chapter 6, pp. 61-70).

The identified and isolated gene can then be inserted into an appropriate cloning vector. A large number of vector-host systems known in the art may be used. Possible vectors include, but are not limited to, plasmids or modified viruses, but the vector system must be compatible with the host cell used. Examples of vectors include, but are not limited to, *E. coli*, bacteriophages such as lambda derivatives, or plasmids such as pBR322 derivatives or pUC plasmid derivatives, *e.g.*, pGEX vectors, pmal-c, pFLAG, pKK plasmids (Clonetech), pET plasmids (Novagen, Inc., Madison, WI), pRSET or pREP plasmids, pcDNA (Invitrogen, Carlsbad, CA), or pMAL plasmids (New England Biolabs, Beverly, MA), *etc.* The insertion into a cloning vector can, for example, be accomplished by ligating the DNA fragment into a cloning vector which has complementary cohesive termini. However, if the complementary restriction sites used to fragment the DNA are not present in the cloning vector, the ends of the DNA molecules may be enzymatically modified. Alternatively, any site desired may be produced by ligating nucleotide sequences (linkers) onto the DNA termini. These ligated linkers may comprise specific chemically synthesized oligonucleotides encoding restriction endonuclease recognition sequences.

Recombinant molecules can be introduced into host cells via transformation, transfection, infection, electroporation, etc., so that many copies of the gene sequence are generated. Preferably, the cloned gene is contained on a shuttle vector plasmid, which provides for expansion in a cloning cell, *e.g.*, *E. coli*, and facile purification for subsequent insertion into an appropriate expression cell line, if such is desired. For example, a shuttle vector, which is a vector that can replicate in more than one type of organism, can be prepared for replication in both *E. coli* and *Saccharomyces cerevisiae* by linking sequences from an *E. coli* plasmid with sequences from the yeast 2m plasmid.

Expression of FGF polypeptides. A nucleotide sequence coding for an FGF polypeptide, for an antigenic fragment, derivative or analog of an FGF polypeptide, or for a functionally active derivative of an FGF polypeptide (including a chimeric protein) may be inserted into an appropriate expression vector, *i.e.*, a vector which contains the necessary elements for the transcription and translation of the inserted protein-coding sequence. Thus, a nucleic acid encoding a FGF polypeptide of the invention can be operationally associated with a promoter in an expression vector of the invention. Both cDNA and genomic sequences can be cloned and expressed under control of such regulatory sequences. Such vectors can be used to express functional or functionally inactivated FGF polypeptides.

The necessary transcriptional and translational signals can be provided on a recombinant expression vector.

Potential host-vector systems include but are not limited to mammalian or other vertebrate cell systems transfected with expression plasmids or infected with virus (*e.g.*, vaccinia virus, adenovirus, adeno-associated virus, herpes virus, etc.); insect cell systems infected with virus (*e.g.*, baculovirus); microorganisms such as yeast containing yeast vectors; or bacteria transformed with bacteriophage, DNA, plasmid DNA, or cosmid DNA. The expression elements of vectors vary in their strengths and specificities. Depending on the host-vector system utilized, any one of a number of suitable transcription and translation elements may be used.

Expression of a FGF polypeptide may be controlled by any promoter/enhancer element known in the art, but these regulatory elements must be functional in the host selected for expression. Promoters which may be used to control FGF gene expression include, but are not limited to, cytomegalovirus (CMV) promoter (U.S. Patent Nos. 5,385,839 and 5,168,062), the SV40 early promoter region (Benoist and Chambon, *Nature* 1981, 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto, *et al.*, *Cell* 1980, 22:787-797), the herpes thymidine kinase promoter (Wagner *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1981, 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster *et al.*; *Nature* 1982, 296:39-42); prokaryotic expression vectors such as the b-lactamase promoter (Villa-Komaroff, *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1978, 75:3727-3731), or the *tac* promoter (DeBoer, *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1983, 80:21-25, 1983); see also "Useful proteins from recombinant bacteria" in

Scientific American 1980, 242:74-94. Still other useful promoter elements which may be used include promoter elements from yeast or other fungi such as the Gal 4 promoter, the ADC (alcohol dehydrogenase) promoter, PGK (phosphoglycerol kinase) promoter, alkaline phosphatase promoter; and transcriptional control regions that exhibit hematopoietic tissue specificity, in particular: beta-globin gene control region which is active in myeloid cells (Mogram *et al.*, *Nature* 1985, 315:338-340; Kollias *et al.*, *Cell* 1986, 46:89-94), hematopoietic stem cell differentiation factor promoters, erythropoietin receptor promoter (Maouche *et al.*, *Blood* 1991, 15:2557), *etc.*

Indeed, any type of plasmid, cosmid, YAC or viral vector may be used to prepare a recombinant nucleic acid construct which can be introduced to a cell, or to tissue, where expression of an FGF gene product is desired. Alternatively, wherein expression of a recombinant FGF gene product in a particular type of cell or tissue is desired, viral vectors that selectively infect the desired cell type or tissue type can be used.

In another embodiment, the invention provides methods for expressing FGF polypeptides by using a non-endogenous promoter to control expression of an endogenous FGF gene within a cell. An endogenous FGF gene within a cell is an FGF gene of the present invention which is ordinarily (*i.e.*, naturally) found in the genome of that cell. A non-endogenous promoter, however, is a promoter or other nucleotide sequence that may be used to control expression of a gene but is not ordinarily or naturally associated with the endogenous FGF gene. As an example, methods of homologous recombination may be employed (preferably using non-protein encoding FGF nucleic acid sequences of the invention) to insert an amplifiable gene or other regulatory sequence in the proximity of an endogenous FGF gene. The inserted sequence may then be used, *e.g.*, to provide for higher levels of FGF gene expression than normally occurs in that cell, or to overcome one or more mutations in the endogenous FGF regulatory sequences which prevent normal levels of FGF gene expression. Such methods of homologous recombination are well known in the art. See, for example, International Patent Publication No. WO 91/06666, published May 16, 1991 by Skoultchi; International Patent Publication No. WO 91/099555, published July 11, 1991 by Chappel; and International Patent Publication No. WO 90/14092, published November 29, 1990 by Kucherlapati and Campbell.

Soluble forms of the protein can be obtained by collecting culture fluid, or

solubilizing inclusion bodies, *e.g.*, by treatment with detergent, and if desired sonication or other mechanical processes, as described above. The solubilized or soluble protein can be isolated using various techniques, such as polyacrylamide gel electrophoresis (PAGE), isoelectric focusing, 2-dimensional gel electrophoresis, chromatography (*e.g.*, ion exchange, affinity, immunoaffinity, and sizing column chromatography), centrifugation, differential solubility, immunoprecipitation, or by any other standard technique for the purification of proteins.

A wide variety of host/expression vector combinations may be employed in expressing the DNA sequences of this invention. Useful expression vectors, for example, may consist of segments of chromosomal, non-chromosomal and synthetic DNA sequences. Suitable vectors include derivatives of SV40 and known bacterial plasmids, *e.g.*, *E. coli* plasmids col El, pCR1, pBR322, pMal-C2, pET, pGEX (Smith *et al.*; *Gene* 1988, 67:31-40), pCR2.1 and pcDNA 3.1+ (Invitrogen, Carlsbad, California), pMB9 and their derivatives, plasmids such as RP4; phage DNAs, *e.g.*, the numerous derivatives of phage l, *e.g.*, NM989, and other phage DNA, *e.g.*, M13 and filamentous single stranded phage DNA; yeast plasmids such as the 2m plasmid or derivatives thereof; vectors useful in eukaryotic cells, such as vectors useful in insect or mammalian cells; vectors derived from combinations of plasmids and phage DNAs, such as plasmids that have been modified to employ phage DNA or other expression control sequences; and the like.

Preferred vectors are viral vectors, such as lentiviruses, retroviruses, herpes viruses, adenoviruses, adeno-associated viruses, vaccinia virus, baculovirus, and other recombinant viruses with desirable cellular tropism. Thus, a gene encoding a functional or mutant FGF polypeptide or a domain fragment thereof can be introduced *in vivo*, *ex vivo*, or *in vitro* using a viral vector or through direct introduction of DNA. Expression in targeted tissues can be effected by targeting the transgenic vector to specific cells, such as with a viral vector or a receptor ligand, or by using a tissue-specific promoter, or both. Targeted gene delivery is described in International Patent Publication WO 95/28494, published October 1995.

Viral vectors commonly used for *in vivo* or *ex vivo* targeting and therapy procedures are DNA-based vectors and retroviral vectors. Methods for constructing and using viral vectors are known in the art (*see, e.g.*, Miller and Rosman, *BioTechniques* 1992,

7:980-990). Preferably, the viral vectors are replication defective, that is, they are unable to replicate autonomously in the target cell. In general, the genome of the replication defective viral vectors which are used within the scope of the present invention lack at least one region which is necessary for the replication of the virus in the infected cell. These regions can either be eliminated (in whole or in part), be rendered non-functional by any technique known to a person skilled in the art. These techniques include the total removal, substitution (by other sequences, in particular by the inserted nucleic acid), partial deletion or addition of one or more bases to an essential (for replication) region. Such techniques may be performed *in vitro* (on the isolated DNA) or *in situ*, using the techniques of genetic manipulation or by treatment with mutagenic agents. Preferably, the replication defective virus retains the sequences of its genome which are necessary for encapsidating the viral particles.

DNA viral vectors include an attenuated or defective DNA virus, such as but not limited to herpes simplex virus (HSV), papillomavirus, Epstein Barr virus (EBV), adenovirus, adeno-associated virus (AAV), and the like. Defective viruses, which entirely or almost entirely lack viral genes, are preferred. Defective virus is not infective after introduction into a cell. Use of defective viral vectors allows for administration to cells in a specific, localized area, without concern that the vector can infect other cells. Thus, a specific tissue can be specifically targeted. Examples of particular vectors include, but are not limited to, a defective herpes virus 1 (HSV1) vector (Kaplitt *et al.*, *Molec. Cell. Neurosci.* 1991, 2:320-330), defective herpes virus vector lacking a glyco-protein L gene (Patent Publication RD 371005 A), or other defective herpes virus vectors (International Patent Publication No. WO 94/21807, published September 29, 1994; International Patent Publication No. WO 92/05263, published April 2, 1994); an attenuated adenovirus vector, such as the vector described by Stratford-Perricaudet *et al.* (*J. Clin. Invest.* 1992, 90:626-630; see also La Salle *et al.*, *Science* 1993, 259:988-990); and a defective adeno-associated virus vector (Samulski *et al.*, *J. Virol.* 1987, 61:3096-3101; Samulski *et al.*, *J. Virol.* 1989, 63:3822-3828; Lebkowski *et al.*, *Mol. Cell. Biol.* 1988, 8:3988-3996).

Various companies produce viral vectors commercially, including but by no means limited to Avigen, Inc. (Alameda, CA; AAV vectors), Cell Genesys (Foster City, CA; retroviral, adenoviral, AAV vectors, and lentiviral vectors), Clontech (retroviral and baculoviral vectors), Genovo, Inc. (Sharon Hill, PA; adenoviral and AAV vectors), Genvec

(adenoviral vectors), IntroGene (Leiden, Netherlands; adenoviral vectors), Molecular Medicine (retroviral, adenoviral, AAV, and herpes viral vectors), Norgen (adenoviral vectors), Oxford BioMedica (Oxford, United Kingdom; lentiviral vectors), Transgene (Strasbourg, France; adenoviral, vaccinia, retroviral, and lentiviral vectors) and Invitrogen (Carlbad, California).

In another embodiment, the vector can be introduced *in vivo* by lipofection, as naked DNA, or with other transfection facilitating agents (peptides, polymers, etc.). Synthetic cationic lipids can be used to prepare liposomes for in vivo transfection of a gene encoding a marker (Felgner *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1987, 84:7413-7417; Felgner and Ringold, *Science* 1989, 337:387-388; Mackey *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1988, 85:8027-8031; Ulmer *et al.*, *Science* 1993, 259:1745-1748). Useful lipid compounds and compositions for transfer of nucleic acids are described in International Patent Publications WO 95/18863 and WO 96/17823, and in U.S. Patent No. 5,459,127. Lipids may be chemically coupled to other molecules for the purpose of targeting (see, Mackey *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1988, 85:8027-8031). Targeted peptides, *e.g.*, hormones or neurotransmitters, and proteins such as antibodies, or non-peptide molecules could be coupled to liposomes chemically. Other molecules are also useful for facilitating transfection of a nucleic acid *in vivo*, such as a cationic oligopeptide (*e.g.*, International Patent Publication WO 95/21931), peptides derived from DNA binding proteins (*e.g.*, International Patent Publication WO 96/25508), or a cationic polymer (*e.g.*, International Patent Publication WO 95/21931).

It is also possible to introduce the vector *in vivo* as a naked DNA plasmid. Naked DNA vectors for gene therapy can be introduced into the desired host cells by methods known in the art, *e.g.*, electroporation, microinjection, cell fusion, DEAE dextran, calcium phosphate precipitation, use of a gene gun, or use of a DNA vector transporter (see, e.g., Wu *et al.*, *J. Biol. Chem.* 1992, 267:963-967; Wu and Wu, *J. Biol. Chem.* 1988, 263:14621-14624; Hartmut *et al.*, Canadian Patent Application No. 2,012,311, filed March 15, 1990; Williams *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 1991, 88:2726-2730). Receptor-mediated DNA delivery approaches can also be used (Curiel *et al.*, *Hum. Gene Ther.* 1992, 3:147-154; Wu and Wu, *J. Biol. Chem.* 1987, 262:4429-4432). US Patent Nos. 5,580,859 and 5,589,466 disclose delivery of exogenous DNA sequences, free of transfection facilitating agents, in a

mammal. Recently, a relatively low voltage, high efficiency *in vivo* DNA transfer technique, termed electrotransfer, has been described (Mir *et al.*, *C.P. Acad. Sci.* 1998, 321:893; WO 99/01157; WO 99/01158; WO 99/01175).

Preferably, for *in vivo* administration, an appropriate immunosuppressive treatment is employed in conjunction with the viral vector, *e.g.*, adenovirus vector, to avoid immuno-deactivation of the viral vector and transfected cells. For example, immunosuppressive cytokines, such as interleukin-12 (IL-12), interferon-g (IFN-γ), or anti-CD4 antibody, can be administered to block humoral or cellular immune responses to the viral vectors (*see, e.g.*, Wilson, *Nat. Med.* 1995, 1:887-889). In that regard, it is advantageous to employ a viral vector that is engineered to express a minimal number of antigens.

FGF Receptors

FGF receptor polypeptides. The present invention relates, not only to FGF ligand polypeptides, described *supra*, but also to receptor polypeptides that specifically bind to an FGF polypeptide. Such receptor polypeptides are generally referred to as FGF receptor polypeptides or FGFR polyeptides.

In preferred embodiments, an FGFR polypeptide of the invention is characterized by its biological activity or activities; *i.e.*, an FGFR polypeptide of the invention is able to specifically bind to an FGF polypeptide. Preferably, the FGFR polypeptide also has a tyrosine kinase activity that may be activated upon binding of the receptor to an FGF ligand and/or upon dimerization of the FGF receptor (*i.e.*, by the binding of a first FGFR polypeptide to a second, preferably identical, FGFR polypeptide). Activation of an FGFR polypeptide may also stimulate one or more biological activities that are associated with FGF signaling. For example, activation of an FGFR polypeptide in cells (*e.g.*, by binding an FGF ligand and/or receptor dimerization) may stimulate activities such as cell mitogenesis or angiogenesis.

FGFR polypeptides, like their ligands, are known in the art (see, in particular, the references cited, *supra*). In particular, at least four types of FGFR polypeptide, known individually as FGFR1-FGFR4, are believed to exist (see, *e.g.*, Jaye *et al.*, *Biochimica et Biophysica Acta* 1992, 1135:185-199). Each of these FGFR polypeptides comprises a cytoplasmic domain that typically exhibits a tyrosine kinase activity, a transmembrane helix

domain, and an extracellular domain. The extracellular domain normally recognizes and specifically binds to an FGF ligand, and may itself comprise at least three distinct immunoglobulin (Ig)-like domains referred to as D1-D3. Binding specificity for the FGF ligand typically resides in, and is therefore incurred by, the D2 and D3 domains and by the short linker polypeptide sequence between those two domains. See, Plotnikov *et al.*, *Cell* 1999, 98:641-650; Plotnikov *et al.*, *Cell* 2000, 101:413-424; and Stauber *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 2000, 97:49-54 for a more detailed discussion.

The amino acid sequence for an exemplary FGFR polypeptide, known as FGFR1, is shown here in **FIG. 2A** (SEQ ID NO:3). The FGFR1 amino acid sequence is also available from GenBank and has the Accession No. P11362 (GI:120046). In this exemplary FGFR polypeptide, the D1 domain corresponds to amino acid residues 30-119. The D2 domain corresponds to amino acid residues 149-247, whereas the D3 domain corresponds to amino acid residues 252-359. The amino acid residues connecting the D1 and D2 domains (*i.e.*, residues 120-148) are referred to here as the D1-D2 "linker region" or the D1-D2 "linker". Similarly, amino acid residues connecting the D2 and D3 domains (*i.e.*, residues 248-251) are referred to here as the D2-D3 "linker region" or the D2-D3 "linker". It is understood that, in preferred embodiments, the amino acid residue numbers used to delineate these separate domains are approximate.

As noted above, numerous variants (including homologs and orthologs from the same and different species of organisms) are known in the art and/or may be readily identified. Such variants, including any of the FGFR polypeptides known as FGFR1, FGFR2, FGFR3 or FGFR4, are also considered part of the present invention and may be used in the compositions and methods described herein. Such variant sequences may be identified using any of the methods described, *supra*, to identify variants (including orthologs and homologs) of an FGF polypeptide.

Thus, for example, the FGFR polypeptides of the invention also include ones encoded by nucleic acid molecules that hybridize to the complement of a nucleic acid molecule encoding another FGFR polypeptide (*e.g.*, in a Southern hybridization experiment under defined conditions). For example, in particular embodiments, an FGF polypeptide may comprise an amino acid sequence encoded by a nucleic acid molecule that hybridizes to the complement of an FGFR1 nucleic acid sequence, such as the coding sequence set forth in

FIG. 2B (SEQ ID NO:4), under highly stringent conditions that comprise 50% formamide in 5x or 6x SSC. In other embodiments, the FGF polypeptide may comprise an amino acid sequence encoded by nucleic acid molecules that hybridize to a complement of an FGFR nucleic acid sequence (*e.g.*, the coding sequence in FIG. 2B and SEQ ID NO:4) under moderately stringent hybridization conditions (for example, 40% formamide with 5x or 6x SSC), or under low stringency conditions (for example in 5x SSC, 0.1% SDS, 0.25% milk, no formamide, 5x SSC, or 0.5% SDS).

In still other embodiments, FGFR polypeptides can also be identified by isolating homologous or variant FGFR gene, *e.g.*, by PCR using degenerate oligonucleotide primes designed on the basis of a given FGFR polypeptide sequence as described below.

FGFR polypeptides of the invention also include polypeptides that comprise one or more partial or fragment FGFR amino acid sequences; *i.e.*, a portion or fragment of a full length FGFR amino acid sequence such as the full length FGFR1 sequence shown in FIG. 2A (SEQ ID NO:3). Such partial FGFR polypeptides may comprise, for example, an amino acid sequence of one or more epitopes or domains of a full length FGFR polypeptide. In one preferred embodiment, for example, a partial FGFR polypeptide comprises an amino acid sequence corresponding to at least one domain which may be, *e.g.*, an intracellular domain, a transmembrane domain, or an extracellular domain such as a D1, D2 or D3 domain. A partial FGFR polypeptide may also comprise an amino acid sequence corresponding to a combination of two or more domains from a full length FGFR polypeptide. For instance, the examples, *infra*, described the construction of an exemplary fusion polypeptide that comprises the D2 and D3 domain of the FGFR1 polypeptide sequence set forth in FIG. 2A (SEQ ID NO:3).

Partial FGFR polypeptides of the invention also include ones that comprise an amino acid sequence of one or more epitopes of a full length FGFR polypeptide. Preferably, such polypeptides contain an amino acid sequence corresponding to at least 5, at least 10, at least 15, at least 20, at least 25, or at least 50 amino acid residues of a full length FGFR polypeptide sequence (*e.g.*, of the full length FGFR1 amino acid sequence set forth in FIG. 2A and in SEQ ID NO:3).

Truncated forms of an FGFR polypeptide can also be provided. Such truncated forms may include an FGFR polypeptide with a specific deletion of amino acid

residues. For instance, in certain embodiments amino acid residue corresponding to one or more domains of a full length FGFR polypeptide (*e.g.*, one or more of the particular domains described, above) may be deleted from the amino acid sequence of an FGFR polypeptide.

The FGFR polypeptides of this invention include, in addition to naturally occurring homologs and orthologs of FGFR polypeptides such as FGFR1 (SEQ ID NO:3), but also include analogs and derivatives of an FGFR polypeptide. Such analogs and derivatives may be ones that are naturally occurring (such as allelic variants); or may be man made (such as fusion proteins). However, analogs and derivatives of an FGFR polypeptide will have the same or homologous characteristics of FGFR polypeptides set forth above.

An FGFR chimeric or fusion polypeptide may also be prepared in which the FGFR portion of the fusion polypeptide has one or more characteristics of the FGFR polypeptide. Such fusion polypeptides therefore represent alternative embodiments of the FGFR polypeptides of this invention. Exemplary FGFR fusion polypeptides include ones which comprise a full length, derivative or truncated FGFR amino acid sequence, as well as fusions which comprise a fragment of an FGFR polypeptide sequence (*e.g.*, a fragment corresponding to an epitope or to one or more domains). Such fusion polypeptides may also comprise the amino acid sequence of a second, different polypeptides; including the amino acid sequence for any of the poylpeptides described, *supra*, for fusion proteins of an FGF ligand.

FGFR analogs or variants can also be made by altering encoding nucleic acid molecules, including any of the alterations described, *supra*, for FGF ligand polypeptides (*e.g.*, by substitutions, additions or deletions). Preferably, such altered nucleic acid molecules encode functionally similar molecules (*i.e.*, molecules that perform one or more functions of an FGFR polypeptide and/or have one or more FGFR bioactivities). Thus, in a specific embodiment, an analog or variant of an FGFR polypeptide is a function-conservative analog or variant.

As with FGF ligand polypeptides, amino acid residues (other than ones that are specifically identified herein as being conserved) may differ among variants of a protein or polypeptide. Accordingly, the percentage of protein or amino acid sequence similarity between any two FGFR polypeptides may vary. The skilled artisan will recognize that the percentage of protein or amino acid sequence similarity between any two FGFR polypeptides

of similar function may vary in ways that are similar to those sequence variations described, *supra*, for FGF ligand polypeptides and nucleic acids.

In still other embodiments, an analog of an FGFR polypeptide may be an allelic variant or mutant FGFR polypeptide. The FGFR polypeptides of the invention also include derivative FGFR polypeptides which may be modified, *e.g.*, according to any of the specific modifications described, *supra*, for FGF polypeptides.

While the above, exemplary variants and analogs of FGFR polypeptides are described primarily in terms of the exemplary FGFR polypeptide, FGFR1, set forth in **FIG. 2A** (SEQ ID NO:3), it is understood that variant FGFR polypeptides of the invention include other FGFR polypeptides (*e.g.*, naturally occurring homologs and orthologs described *supra*) having equivalent amino acid substitutions, deletions or insertions.

FGF receptor nucleic acids. In general, an FGFR nucleic acid molecule of the present invention comprises a nucleic acid sequence that encodes an FGFR polypeptide (as defined, above, in this Subsection) or the complement of an FGFR polypeptide encoding sequence. The invention also provides fragments of FGFR encoding sequences and their complements, and such sequences are also considered part of the FGFR nucleic acid molecules of this invention. Thus, in one exemplary embodiment, an FGFR nucleic acid molecule of this invention may encode the exemplary FGFR1 polypeptide sequence set forth in **FIG. 2A** (SEQ ID NO:3), such as the particular FGFR1 nucleic acid sequence that is depicted in **FIG. 2B** (SEQ ID NO:4).

In still other embodiment, the FGFR nucleic acid molecules of this invention comprise nucleic acid sequences that encode one or more domains of an FGFR polypeptide; for example, an intracellular domain, a transmembrane domain, or an extracellular domain or portion thereof (*e.g.*, a D1, D2 or D3 domain).

The FGFR nucleic acid molecules of the invention also include nucleic acids which comprise a sequence encoding one or more fragments of an FGFR polypeptide. Such fragments include, for example, polynucleotides that encode an epitope of an FGFR polypeptide; *e.g.*, nucleic acids that encode a sequence of at least 5, and more preferably at least 10, 15, 20, 25 or 50 amino acid residues of an FGFR polypeptide sequence (for example, the exemplary FGFR1 polypeptide sequence set forth in **FIG. 2B** and in SEQ ID NO:4).

As explained above, numerous variant FGFR polypeptides are known in the art and/or may be readily identified by those skilled in the art, including homologous and orthologous polypeptides from the same and different species of organism. The FGFR nucleic acid molecules of the invention therefore include nucleic acid molecule comprising coding sequences for variant FGFR polypeptides (including allelic variants, analogs and homologous from the same or different species), as well as nucleic acid molecule comprising coding sequences for modified FGFR polypeptides (*e.g.*, having amino acid substitutions, deletions or truncations). In preferred embodiments, such nucleic acid molecules have at least 50%, preferably at least 75% and more preferably at least 90% sequence identity to another FGFR coding sequence, such as the exemplary FGF2 coding sequence set forth in **FIG. 2B** (SEQ ID NO:4).

In addition, the FGFR nucleic acid molecules of the invention include nucleic acid molecules that hybridize to another FGFR nucleic acid molecule, *e.g.*, in a Southern blot assay under defined conditions. For example, in specific embodiments an FGF nucleic acid molecule of the invention comprises a nucleotide sequence which hybridizes to a complement of the exemplary FGFR1 coding sequence set forth in **FIG. 2B** (SEQ ID NO:4) under highly stringent or moderately stringent hybridization conditions that are defined, *supra*, for FGF nucleic acids.. Alternatively, an FGFR nucleic acid molecule may hybridize, under the same defined hybridization conditions, to the complement of a fragment of a nucleotide sequence encoding a full length FGFR polypeptide.

In other embodiments, FGFR nucleic acid molecules of the invention comprise fragments of a full length FGFR nucleic acid sequence. Such nucleic acid fragments comprise a nucleotide sequence that corresponds to a sequence of at least 10 nucleotides, preferably at least 15 nucleotides and more preferably at least 20 nucleotides of a full length coding FGFR nucleotide sequence. In specific embodiments, the fragments correspond to a portion (*e.g.*, of at least 10, 15, or 20 nucleotides) of the exemplary FGFR1 coding sequence shown in **FIG. 2B** (SEQ ID NO:4). In other embodiments, an FGFR nucleic acid fragment may comprise sequences of at least 10, preferably at least 15, and more preferably at least 20 nucleotides that are complementary and/or hybridize to a full length FGFR coding sequence (*e.g.*, the FGFR1 coding sequence set forth in **FIG. 2B** and in SEQ ID NO:4) or to a fragment thereof. Suitable hybridization conditions for such oligonucleotides are described, *supra*, for

FGF nucleic acids.

Nucleic acid molecules comprising such fragments are useful, for example, as oligonucleotide probes and primers (*e.g.*, PCR primers) to detect and amplify other nucleic acid molecules encoding an FGFR polypeptide, including genes that encode variant FGFR polypeptides (including genes that encode homologous or orthologous FGFR polypeptides from the same or different species of organism). Oligonucleotide fragments of the invention may also be used, *e.g.*, as antisense nucleic acids, triple helix forming oligonucleotides or as ribozymes (*e.g.*, to modulate levels of FGFR gene expression or transcription in cells).

The nucleic acid molecules of the invention also include "chimeric" FGFR nucleic acid molecules. Such chimeric nucleic acid molecules are polynucleotides which comprise at least one FGFR nucleic acid sequence (which may be any of the full length or partial FGFR nucleic acid sequences described above), and also at least one non-FGFR nucleic acid sequence. For example, the non-FGFR nucleic acid sequence may be any of the non-FGF nucleic acid sequences described, *supra*. In preferred embodiments, a chimeric FGFR nucleic acid molecule of the invention encodes an FGFR fusion polypeptide of the invention.

It is understood that FGFR nucleic acid molecules of the present invention may be obtained and/or isolated using standard techniques that are known in the art and described, *supra*, for obtaining FGF nucleic acids. Similarly, FGFR polyeptides may be readily expressed, *e.g.*, by expressing FGFR nucleic acids in host cells using any of the art recognized techniques that are described above for expressing FGF polypeptides.

Agonists and Antagonists

The present invention also provides compounds that modulate FGFR activity and FGF-signaling. Such compounds are therefore useful, *e.g.*, for modulating biological activities that are associated with FGF-signaling and/or as therapeutic agents for treating disorders associated with FGF-signaling. For example, the compounds of this invention may be used, *e.g.*, to modulate mitogenesis, angiogenesis or differentiation of cells. Such compounds are also useful, *e.g.*, as therpeutic agents to modulate tumor growth or to treat a disorder of cell proliferation (referred to herein as "cell proliferation disorders"), for example cancer.

Compounds that modulate FGF-signaling or an activity associated therewith may be readily identified using screening methods of the present invention. For example, the accompanying appendix provides structure coordinates, discussed in the Examples *infra*, for a dimerized ternary complex of an FGF ligand, an FGF receptor and sucrose octasulfate (SOS). Interactions (*e.g.*, hydrogen bonding interactions) between the SOS molecule and the FGF ligand and receptor molecule(s) are also disclosed that stabilize formation of the ternary complex and, moreover, stabilize FGF receptor dimerization. Using routine, computer modeling algorithms and other techniques that are well known in the art, a user may identify other compounds that are expected to an FGF ligand and/or its receptor in a way that is similar to binding of SOS. More specifically, using the crystal structure provided here, those skilled in the art can identify compounds that bind to an FGF receptor and/or ligand, and form stabilizing interactions with the ligand/receptor complex that are similar to the stabilizing interactions described here for SOS.

In exemplary embodiments, compounds identified by the screening methods of this invention may form a ternary complex with an FGF ligand and its receptor while, at the same time, inhibiting FGF receptor dimerization. More specifically, the compounds may be ones which have (or are expected to have) stabilizing interactions between an FGF ligand and receptor in a ternary complex that are similar to the stabilizing interactions described *infra*, for SOS. At the same time, however, these compounds may disrupt or inhibit stabilizing interactions between a first and second ternary complex (*e.g.*, by eliminating key hydrogen bonding interactions) so that dimerization of the FGF receptor is inhibited. Such compounds can be expected to compete with heparin for binding to the FGF ligand and its receptor, and inhibit FGFR dimerization. Accordingly, the compounds can also be expected to inhibit FGFR activity and FGF-signaling, as well as biological activities (*e.g.*, mitogenesis, angiogenesis, *etc.*) that are associated with FGF-signaling and FGFR activity. Still other compounds, such as suramin, described *infra*, may stabilize interactions between an FGF-ligand and its receptor, similar to SOS, while at the same time inhibiting FGF signaling. Such compounds are therefore referred to here as "antagonists" or as "heparin antagonists" since they suppress the action of heparin in FGF-signaling.

In other exemplary embodiments, compounds identified by screening methods of this invention may actually have (or may be expected to have) improved binding or

stabilizing interactions with an FGF ligand and/or receptor(s). For example, compounds identified by these screening methods may form (or be expected to form) stronger and/or more specific hydrogen bonding interactions with an FGF ligand or with an FGF receptor or recptors, and may actually form complexes with an increased binding affinity relative, *e.g.*, to heparin. Such compound may also promote dimerization of an FGF receptor and thereby increasing FGFR dimerization. These compounds can be expected to increase FGFR activity and FGF-signaling, as well as biological activities that are associated with FGF-signaling and FGFR activity. Such compounds are therefore referred to here as "agonists" or "heparin agonists" since they enhance or improve upon the action of heparin in FGF-signaling.

Examples of heparin agonists and antagonists include derivatives of SOS. SOS derivatives may be determined using a rational drug design approach that utilizes the information derived from the FGF-FGFR-SOS complex crystal structure described in the Examples, *infra*. Examples of antagonists include suramin and SOS derivatives with one or more sulfate groups substituted with benzyl or trityl or other bulky hydroxyl protecting groups. Bulky groups such as these are predicted to provide a steric effect, which hampers recruitment of a second FGFR from another FGF-FGFR complex.

SOS derivatives, which incorporate benzyl and trityl substitutions or other bulky group substitutions may be synthesized using regioselective sucrose functionalization procedures known to those skilled in the art (see, for example, Jenner & Khan, *J.C.S. Chem. Comm.* 1980, 50-51; Vlahov, *J. Carbohydr. Chem.* 1997, 16:1-10; Polat, *J. Carbohydr. Chem.* 1997, 16:1319-1325; and Bazin, *Carbohydr. Res.* 1998, 309:189-205), followed by persulfonation. Other types of hydroxyl protecting groups, such as bulky acyl groups, including but not limited to benzoyl, pivaloyl, fatty acyl groups, or bulky silyl groups such as t-butylphenylsilyl (TBDPS) or t-butylmethylsilyl (TBDMS), or bulky ketals or acetals such as isopropylidene or benzylidene, might also be used in place of the bulky benzyl and trityl ether groups.

Preferred SOS derivatives include 2-*O*-Bn sucrose heptasulfate (Structure I), 1'-*O*-Bn sucrose heptasulfate (Structure II), 1',2-di-*O*-Bn sucrose hexasulfate (Structure III). The exemplary synthesis of Structures I and II is illustrated in **FIG. 8**. The exemplary synthesis of Structure III is illustrated in **FIG. 9**. Specifically, structures I and II may be formed by the selective benzylation of sucrose in the 1' - or 2- positions, followed by

separation and persulfonation. Structure III may be formed using a regioselective 1',2-silylation (Jenner & Khan, *supra*) followed by peracetylation and separation. The 1',2-silyl derivative formed is desialated, the free hydroxy groups are benzylated, and the compound formed is deacetylated and persulfonated.

Still other examplary SOS derivatives include 6-*O*-hexadecanoyl sucrose heptasulfate (Structure V) and 2-*O*-dodecanoyl, 6'-*O*-hexadecanoyl sucrose hexasulfate (Structure VI), both of which are illustrated in **FIG. 10**.

Compounds identified by molecular modeling and/or the screening methods described here may be further investigated to better characterize their ability to form ternary complexes with FGF ligands and receptor, as well as for their ability to modulate FGFR dimerization and FGF-signaling. For example, a test compound may be contacted, in a reaction mixture, to an FGF ligand, and to an FGF receptor in either the presence or, alternatively, in the absence of co-factors such as heparin. The reaction mixture can then be assayed to determine whether a ternary complex has formed using techniques, such as size exclusion chromatography (see the Examples, *infra*), that are well known in the art. In preferred embodiments, such assays may also determine whether such ternary complexes have dimerized to indicate whether FGFR dimerization has been enhanced or inhibited by the test compound.

In vivo or cell culture assays may also be used to determine whether a test compound functions as a heparin agonist or antagonist to modulate FGFR activity or FGF-signaling in cells. For instance, the Examples, *infra*, describe cell culture assays that may be used to measure a test compound's ability to modulate an activity, such as mitogenesis, that is associated with FGF-signaling. Such assays generally comprise contacting a test compound to a cell that expresses an FGF receptor. The test compound should be contacted to the cell in the presence of an FGF ligand and, optionally, in the presence of a co-factor such as heparin or HSPG that activates FGFR. The cell culture may then be assayed or examined to determine whether a response associated with FGF-signaling has been activated. For instance, the Examples *infra* provide an assay that test the ability of a test compound to modulate cell growth (*i.e.*, mitogenesis) stimulated by FGF-signaling.

Pharmaceutical Preparations. In preferred embodiments, compounds that are

agonists or antagonists of FGFR activity and/or of FGF-signaling may be administered (*e.g.*, *in vitro* or *ex vivo* to cell cultures, or *in vivo* to an organism) at therapeutically effective doses to treat a disease or disorder associated with FGF-signaling. Such compounds may be used, for example, to modulate activities such a mitogenesis and angiogenesis, or to modulate (preferably decrease) tumor growth. Exemplary diseases that may be treated using such methods include cell proliferative disorders such as cancer. Accordingly, the invention also provides pharmaceutical preparations for use, *e.g.*, as therapeutic compounds for the treatment of disorders and other conditions that are associated with FGF-signaling and/or FGFR activity.

The terms "therapeutically effective dose" and "effective amount" refer to the amount of the compound that is sufficient to result in a therapeutic response. In embodiments where a compound (*e.g.*, a drug or toxin) is administered in a complex (*e.g.*, with an FGF or FGFR specific antibody), the terms "therapeutically effective dose" and "effective amount" may refer to the amount of the complex that is sufficient to result in a therapeutic response. A therapeutic response may be any response that a user (*e.g.*, a clinician) will recognize as an effective response to the therapy. Thus, a therapeutic response will generally be an amelioration of one or more symptoms of a disease or disorder. In preferred embodiments, where the pharmaceutical preparations are used to treat a cancer, a therapeutic response may be a reduction in the number of cancer cells observed, *e.g.*, in biopsies from a patient during treatment. Alternatively, an effective therapeutic response may be a reduction or shrinkage in the size of one or more tumors.

Toxicity and therapeutic efficacy of compounds can be determined by standard pharmaceutical procedures, for example in cell culture assays or using experimental animals to determine the LD_{50} and the ED_{50}. The parameters LD_{50} and ED_{50} are well known in the art, and refer to the doses of a compound that are lethal to 50% of a population and therapeutically effective in 50% of a population, respectively. The dose ratio between toxic and therapeutic effects is referred to as the therapeutic index and may be expressed as the ratio: LD_{50}/ED_{50}. Compounds that exhibit large therapeutic indices are preferred. While compounds that exhibit toxic side effects may be used. However, in such instances it is particularly preferable to use delivery systems that specifically target such compounds to the site of affected tissue so as to minimize potential damage to other cells, tissues or organs and

to reduce side effects.

Data obtained from cell culture assay or animal studies may be used to formulate a range of dosages for use in humans. The dosage of compounds used in therapeutic methods of the present invention preferably lie within a range of circulating concentrations that includes the ED_{50} concentration but with little or no toxicity (*e.g.*, below the LD_{50} concentration). The particular dosage used in any application may vary within this range, depending upon factors such as the particular dosage form employed, the route of administration utilized, the conditions of the individual (*e.g.*, patient), and so forth.

A therapeutically effective dose may be initially estimated from cell culture assays and formulated in animal models to achieve a circulating concentration range that includes the IC_{50}. The IC_{50} concentration of a compound is the concentration that achieves a half-maximal inhibition of FGF signaling activity (*e.g.*, as determined from the cell culture assays) or, where a compound is administered to treat a particular disorder, a half-maximal inhibition of symptoms. Appropriate dosages for use in a particular individual, for example in human patients, may then be more accurately determined using such information.

Measures of compounds in plasma may be routinely measured in an individual such as a patient by techniques such as high performance liquid chromatography (HPLC) or gas chromatography.

Pharmaceutical compositions for use in accordance with the present invention may be formulated in conventional manner using one or more physiologically acceptable carriers or excipients.

Thus, the compounds and their physiologically acceptable salts and solvates may be formulated for administration by inhalation or insufflation (either through the mouth or the nose) or oral, buccal, parenteral or rectal administration.

For oral administration, the pharmaceutical compositions may take the form of, for example, tablets or capsules prepared by conventional means with pharmaceutically acceptable excipients such as binding agents (*e.g.*, pregelatinised maize starch, polyvinylpyrrolidone or hydroxypropyl methylcellulose); fillers (*e.g.*, lactose, microcrystalline cellulose or calcium hydrogen phosphate); lubricants (*e.g.*, magnesium stearate, talc or silica); disintegrants (*e.g.*, potato starch or sodium starch glycolate); or wetting agents (*e.g.*, sodium lauryl sulphate). The tablets may be coated by methods well known in the art. Liquid

preparations for oral administration may take the form of, for example, solutions, syrups or suspensions, or they may be presented as a dry product for constitution with water or other suitable vehicle before use. Such liquid preparations may be prepared by conventional means with pharmaceutically acceptable additives such as suspending agents (*e.g.*, sorbitol syrup, cellulose derivatives or hydrogenated edible fats); emulsifying agents (*e.g.*, lecithin or acacia); non-aqueous vehicles (*e.g.*, almond oil, oily esters, ethyl alcohol or fractionated vegetable oils); and preservatives (*e.g.*, methyl or propyl-p-hydroxybenzoates or sorbic acid). The preparations may also contain buffer salts, flavoring, coloring and sweetening agents as appropriate.

Preparations for oral administration may be suitably formulated to give controlled release of the active compound. For buccal administration the compositions may take the form of tablets or lozenges formulated in conventional manner. For administration by inhalation, the compounds for use according to the present invention are conveniently delivered in the form of an aerosol spray presentation from pressurized packs or a nebuliser, with the use of a suitable propellant, *e.g.*, dichlorodifluoromethane, trichlorofluoromethane, dichlorotetrafluoroethane, carbon dioxide or other suitable gas. In the case of a pressurized aerosol the dosage unit may be determined by providing a valve to deliver a metered amount. Capsules and cartridges of *e.g.*, gelatin for use in an inhaler or insufflator may be formulated containing a powder mix of the compound and a suitable powder base such as lactose or starch.

The compounds may be formulated for parenteral administration by injection, *e.g.*, by bolus injection or continuous infusion. Formulations for injection may be presented in unit dosage form, *e.g.*, in ampules or in multi-dose containers, with an added preservative. The compositions may take such forms as suspensions, solutions or emulsions in oily or aqueous vehicles, and may contain formulatory agents such as suspending, stabilizing and/or dispersing agents. Alternatively, the active ingredient may be in powder form for constitution with a suitable vehicle, *e.g.*, sterile pyrogen-free water, before use.

The compounds may also be formulated in rectal compositions such as suppositories or retention enemas, *e.g.*, containing conventional suppository bases such as cocoa butter or other glycerides.

In addition to the formulations described previously, the compounds may

also be formulated as a depot preparation. Such long acting formulations may be administered by implantation (for example subcutaneously or intramuscularly) or by intramuscular injection. Thus, for example, the compounds may be formulated with suitable polymeric or hydrophobic materials (for example as an emulsion in an acceptable oil) or ion exchange resins, or as sparingly soluble derivatives, for example, as a sparingly soluble salt.

The compositions may, if desired, be presented in a pack or dispenser device that may contain one or more unit dosage forms containing the active ingredient. The pack may for example comprise metal or plastic foil, such as a blister pack. The pack or dispenser device may be accompanied by instructions for administration.

EXAMPLES

The present invention is also described by means of particular examples. However, the use of such examples anywhere in the specification is illustrative only and in no way limits the scope and meaning of the invention or of any exemplified term. Likewise, the invention is not limited to any particular preferred embodiments described herein. Indeed, many modifications and variations of the invention will be apparent to those skilled in the art upon reading this specification and can be made without departing from its spirit and scope. The invention is therefore to be limited only by the terms of the appended claims along with the full scope of equivalents to which the claims are entitled.

Example 1: SOS Promotes Dimerization of FGF - FGFR Complexes

This example describes experiments that were performed *in vitro* to test whether sucrose octasulfate (SOS) can act as a heparin mimetic. Specifically, the data obtained from these experiments demonstrate that SOS is able to promote the dimerization of complexes between fibroblast growth factor receptors and their ligands (*i.e.*, FGF - FGFR complexes).

A construct encoding an extracellular ligand binding portion of the FGFR1 polypeptide set forth in **FIG. 1A** (SEQ ID NO:1) was expressed in *E. coli* and refolded *in vivo* using established protocols, as previously described by Plotnikov *et al.* (*Cell* 2000, 101:413-424). In particular, the soluble FGFR1 polypeptide expressed by this construct, which is referred to here as D23, comprises amino acid residues 142 to 365 of SEQ ID NO:1,

which correspond to the immunoglobulin (Ig)-like domains 2 and 3 (D2 and D3, respectively), which are known to confer ligand binding and specificity for the FGFR receptor. However, the D23 polypeptide is missing the Ig-like domain 1 (D1), the acid box and the linker polypeptide sequence between D3 and the transmembrane helix. The D23 polypeptide is therefore similar to a naturally occurring splice variant of FGFR1 that retains full ligand binding capacity (Johnson *et al.*, *Mol. Cell. Biol.* 1990, 10:4728-4736).

When expressed in *E. coli* cells, the D23 polypeptide was found entirely in inclusion bodies. The polypeptide was solubilized using standard denaturing reagents and refolded *in vitro*. Following purification by ion exchange chromatography, the D23 polypeptide was complexed with the FGF2 ligand polypeptide whose amino acid sequence is set forth in **FIG. 2A** (SEQ ID NO:3) and purified by size exclusion chromatography.

To quantitate dimerization, the purified 1:1 FGF2:FGFR1 complexes were mixed at various molar ratios with SOS and analyzed by size exclusion chromatography according on SUPERDEX 200 ® (Amersham Pharmacia Biotech.) size exclusion column in 25 mM HEPES-NaOH buffer (pH 7.5) containing 150 mM sodium chloride. The resulting chromatograms are shown in **FIGS. 3A-C**.

In the absence of SOS (**FIG. 3A**) only a peak corresponding to monomers of the FGF:FGFR complexes are observed, which is indicated by the letter M. A small peak, identified in **FIG. 3A** by the letter L, was also observed at higher elution volumes. This peak corresponds to free FGF ligand polypeptide that dissociates from the FGF:FGFR complex due to protein dilution during the chromatography process. As SOS is added to the mixture (**FIGS. 3B-3C**), a third peak corresponding to dimers of the FGF:FGFR complex is observed (identified by the letter D) while the intensity of the monomer peak (M) decreases. The intensities of the dimer and monomer peaks increase and decrease, respectfully, as SOS is added in higher amounts (compare, *e.g.*, **FIG. 3B** to **FIG. 3C**). Finally, when SOS is added at a 1:1:1 molar ratio to the FGF and FGFR (**FIG. 3D**), only a peak corresponding to FGF:FGFR dimers is observed.

Similar results have also been obtained by the inventors in size exclusion chromatography experiments that used a homogenously sulfated heparin hexasacharide instead of a SOS (see, in particular, Schlessinger *et al.*, *Molecular Cell* 2000, 6:743-750). However, the results presented here show that small molecules, including sulfated dischardes

such as SOS, can dimerize an FGF receptor.

Example 2: SOS Promotes Activation of the FGF Receptor by FGF in Cells

This example describes experiments that investigated the ability of SOS to modulate FGF ligand-dependent activation of the FGF receptor *in vivo*. In particular, an assay is described here that uses a BaF3 cell line which overexpresses FGFR1. This cell line has been previously described and is therefore known in the art (see, *e.g.*, Huang *et al.*, *J. Biol. Chem.* 1995, 270:5065-5072).

BaF3 cells are a lymphoid cell line, which are dependent on interleukin-3 (IL-3) for growth. Ordinarily, these cells do not exhibit any response to FGF. However, when stably transfected to express an FGF receptor, the cells exhibit a dose-dependent mitogenic response to FGF ligand in the absence of IL-3. Accordingly, the growth rate of such transfected cells is useful as a measurement of FGF receptor activity *in vivo*. Because BaF3 cells express only low amounts of HSPG, soluble heparin must also be present to elicit the FGF-dependent mitogenic response observed in the transfected cells.

For the experiments discussed here, BaF3 cells that stably expressed wild-type FGFR1 (SEQ ID NO:1) were cultured according to standard methods that have been previously described (see, Huang *et al.*, *supra*). 1×10^4 cells were seeded in triplicate wells and grown in the presence of heparin (3 μM) or, alternatively, in the presence of various concentrations (0.1, 0.5, 1, 5 and 10 μM, respectively) of SOS. The numbers of viable cells in each well were counted daily in duplicate.

Data from these experiments are graphically presented here in **FIG. 4** as mean and standard deviation values. As can be seen from inspecting the figure, SOS supports FGF2 in inducing proliferation of the BaF3 cells over expressing FGFR1 in a dose-dependent manner. As anticipated, the BaF3 cells grow minimally in the presence of FGF2 alone.

Thus, these data complement data from the *in vitro* experiments presented in Example 1, *supra*. In particular, these experiments demonstrate not only that SOS can bind to and/or support dimerization of FGF ligand-receptor complexes, but also show that SOS can increase FGF receptor activity in cells, and thereby enhance signaling by an FGF ligand.

Example 3: Crystallography of an FGF-FGFR Complex with SOS

This example describes x-ray crystallography experiments that better characterize the molecular mechanisms by which SOS may interact with and/or stabilize dimers of FGF-FGFR complexes. In particular, this example describes the crystalization of FGF2-FGFR1 complexes with SOS and the solution of that crystal structure by analyzing x-ray diffraction data.

Crystals of dimeric FGF2-FGFR1-SOS complexes were grown by vapor diffusion at 20 °C using the hanging drop method. 2 µL of protein solution (10 mg/mL in 25 mM HEPES-NaOH (pH 7.5) and 150 mM NaCl) was mixed with an equal volume of crystallization buffer (12-16% Polyethylene glycol 5000, 0.2 M ammonium sulfate and 15% glycerol in 0.1 M HEPES-NaOH (pH 7.5)). The protein solution contained a 1:1:1 stoichiometric ratio of FGF2, and soluble FGFR1 construct described, *supra*, in Example 1, and SOS.

The resultant crystals are shown in **FIG. 5A**. The crystal belongs to the orthorhombic space group $P2_1\,2_1\,2_1$ and has unit cell dimensions of a = 64.2 Å, b = 122.4 Å and c = 219.5 Å. The crystal contains four FGF2-FGFR1-SOS complexes in the asymmetric unit with a solvent content of about 56%.

Diffraction data were collected from a flash-frozen crystal on a CCD detector at beamline X4A at the National Synchrotron Light Source, Brookhaven National Laboratory. The data were processed using DENZO and SCALEPACK (Otwinowski & Minor, *Methods Enzymol.* 1997, 276:307-326). A molecular replacement solution was found for the four copies of the ternary FGF2-FGFR1-SOS complex in the asymmetric unit using the program AmoRe (Navaza, *Acata. Crystallogr. Sect. A* 1994, 50:157-163) and the binary FGF2-FGFR1 crystal structure deposited in the Protein Data Bank (see, Berman *et al.*, *Nucl. Acids Res.* 2000, 28:235-242) under ID code 1CVS (Plotnikov, *Cell* 1999, 98:641-650) as the search model.

The initial model for the structure of SOS was taken from the FGF1-SOS crystal structure deposited in the Protein Data Bank under ID code 1AFC (Zhu *et al.*, *Structure* 1993, 1:27-34). Parameters for the SOS molecule were generated using the HIC-Up server (Kleywegt & Jones, *Acta. Crystallogr. D* 1998, 54:1119-1131). The models were refined by simulated annealing and positional/B-factor refinement using CNS (Brunger *et al.*, *Acta Crystallogr. Sect. D* 1998, 54:905-921) with bulk solvent and anisotropic B-factor

corrections applied. Tight noncrystallographic symmetry restrains were imposed throughout the refinement for the backbone atoms of FGF2 domains D2 and D3. Model building into the $2F_o$-F_c and Fo-F_c electron density maps was performed with the program O (Jones *et al.*, *Acta Crystallogr. Sect. A* 1991, 47:110-119).

From these methods, the crystal structure has been refined to a 2.6 Å resolution with an R value of 24% (free R value of 28%). The atomic model consists of four FGF2 molecules (residues 16 to 144 from SEQ ID NO:1), four FGFR2 molecules (residues 149 to 359 from SEQ ID NO:3), four SOS molecule, three sulfate ions and 42 molecules of water. A list of coordinates for the final structure is provided here, in PDB file format, at the Appendix *infra*. Data collection and refinement statistics are given in Table 1, below.

TABLE 1: Summary of crystallographic analysis

I. Data Collection Statistics:

Resolution (Å)	Reflections (total/unique)	Completeness (%)	R_{sym} [a] (%)	Signal ($\langle I/\sigma^{-1}\rangle$)
30.0-2.6	764014/53698	99.9 (100.0)[b]	7.8 (33.2)[b]	13.5

II. Refinement Statistics:[c]

			Root-mean-square Deviations		
Resolution (Å)	Reflections	R_{cryst}/R_{free} [d] (%)	Bonds (Å)	Angles (°)	B-factors[e] (Å)
25.0-2.6	52014	24.1/27.8	0.008	1.4	1.00

[a] $R_{sym} = 100 \times \sum_{hkl} \sum_{i} |I_i(hkl) - \langle I(hkl) \rangle| / \sum_{hkl} \sum_{i} I_i(hkl)$.

[b] Value in parentheses is for the highest resolution shell: 2.69 - 2.6 Å.

[c] Atomic model: 10823 protein atoms, 4 SOS molecules, 3 SO_4^{2-} ions and 42 water molecules.

[d] $R_{cryst/free} = 100 \times \sum_{hkl} \| F_o(hkl) | - | F_c(hkl) \| / \sum_{hkl} | F_o(hkl) |$, where F_o (>0σ) and F_c are the observed and calculated structure factors. 5% of the reflections were used for calculations of R^{free}.

[e] For bonded protein atoms.

EXAMPLE 4: Analysis of the Dimerized FGF-FGFR-SOS Crystal Structure

Coordinates for the final refined crystal structure of the FGF-FGFR dimer complex with SOS is provided here, in PDB format, in the accompanying Appendix.

Description of the overall structure. The four 1:1:1 FGF2-FGFR1:SOS complexes of the crystals' asymmetric unit are arranged into two dimeric assemblies. Each dimer structure closely resembles the dimeric assembly of the binary FGF2-FGFR1 complexes describes previously by Plotnikov *et al.* (*Cell* 1999, 98:641-650), and may be viewed conceptually as the association of two 1:1:1 ternary complexes of FGF2:FGFR2:SOS. The structure of the FGF2:FGFR2:SOS dimers was visualized using the Molscript and Raster3D programs (see, Kraulis, *J. Appl. Crystallogr.* 1991, 24:946-950; and Merritt & Bacon, *Methods Enzymol.* 1997, 277:505-524). The overall structure for one dimer complex is illustrated in **FIG. 5B**. The same structure is also illustrated in **FIG. 5C**, as viewed when the structure illustrated in **FIG. 5B** is rotated 90° around the horizontal axis. The F_o-F_c electron density map computed after simulated annealing with SOS omitted from the atomic model was also visualized using the Bobscript program (see, Esnouf, *J. Mol. Graph. Model* 1997, 15:132-134), and is shown in **FIGS. 6A-B**.

Within each ternary complex, the FGF2 ligand binds to the D2 and D3 domains of the receptor FGFR1, as well as to the linker sequence between the D2 and D3 domains of FGFR1. The dimer, in turn, is held together by interactions of the FGF2, FGFR1 and SOS from one ternary complex with the FGFR1 in the other, adjoining ternary complex within the dimer.

The SOS binding site. Each dimer in the crystals' asymmetric unit contains two SOS molecules, which bind to the same general region of the FGF-FGFR1 dimer complex that has been shown to bind heparin (see, Schlessinger *et al.*, *Molecular Cell* 2000, 6:743-750). As can be seen in **FIG. 6**, the F_o-F_c electron density for one of the SOS molecules is strong and well contoured, while the density for the second SOS molecule is less defined, indicating that this second SOS molecule is somewhat less ordered within the crystals. The well ordered SOS molecule makes a total of 13 hydrogen bonds with on FGF2 and both FGFR1 molecules in the asymmetric unit. These H-bonds, which are illustrated in **FIG. 7**, stabilize the FGF2-FGFR1 complexes, and also promote dimerization.

Interactions of SOS with FGF and FGFR in the dimer. Within each ternary complex, SOS makes five hydrogen bonds with FGF2 and four with FGFR1. These hydrogen

bonding interactions are illustrated schematically in FIG. 7. Specifically, hydrogen bonding interactions are observed between both the 5- and 6- membered rings of SOS and Lysines 163 and 177 of FGFR1. These lysines are located on the heparin binding surface of the D2 domain in FGFR1, and have also been shown to bind heparin in the crystal structure of a FGF2-FGFR1 complex with heparin (see, Schlessinger *et al.*, *Molecular Cell* 2000, 6:743-750).

SOS also interacts with the D2 domain of the FGFR molecule in the adjoining ternary complex of the crystals' asymmetric unit. Specifically, a hydrogen bond is observed between Lysine 207 of the second FGFR molecule and the 2-sulfate (in the 6-membered ring) of SOS. Another hydrogen bond is observed between Lysine 207 of the second FGFR molecule and the 6'-sulfate (in the 5-membered ring) of SOS. Interestingly, Lysine 207 has also been implicated in heparin binding (see, Schlessinger *et al.*, *supra*). Two addition hydrogen bonds, mediated by a water molecule, are observed between the 6'-sulfate of SOS and backbone atoms in the glycine 205 and aspartic acid 218 amino acid residues of the second FGFR molecule.

Five additional hydrogen bonds are made between Lysines 26 and 135 of FGF2 and the sulfate groups of SOS. In the crystal structure of a ternary FGF2-FGFR1-heparin complex described by Schlessinger *et al.*, *supra*, these FGF2 lysines form hydrogen bonds to heparin.

Thus, the crystal structure described here demonstrates that SOS interacts with FGF and FGFR in a way that mimics the proteins' reaction with heparin, and similarly increases FGF-FGFR binding affinity.

EXAMPLE 5: Heparin Agonists and Antagonists as Therapeutic Agents

The experiments described in Examples 1-4, *supra*, demonstrate that SOS can interact with an FGF ligand and/or its receptor and, moreover, that this interaction enhances dimerization of the receptor-ligand complex, and increases receptor activity. Recent biochemical and structural data have indicated that FGF may form an initial, low affinity complex with FGFR in the absence of heparin (see, *e.g.*, Pantoliano *et al.*, *Biochemistry* 1994, 33:10229-10248; and Plotnikov *et al.*, *Cell* 1999, 98:641-650). However, this minimal 1:1 complex may, at best, only allow transient receptor dimerization and signaling at high, non-

physiological concentrations of the receptor and/or its ligand. Under normal physiological concentrations, the FGF ligand and its receptor tend to dissociate, and do not have sufficient oportunity to interact simultaneously with a second FGF receptor. Without being bound to any particular theory or mechanism of action, it is therefore believed that the presence of either heparin or SOS is necessary under normal physiological concentrations of FGF ligand and/or receptor to stabilize the low affinity receptor-ligand complexes, and provide sufficient opportunity for the concerted binding of FGF ligand and receptor in one monomeric ternary complex to the FGFR in a second monomeric ternary complex. In other words, both heparin and SOS are believed to bind to FGF ligand and receptor and generate stable receptor-ligand complexes which, in turn, provide sufficient interface for the binding of a second FGF receptor molecule.

The crystal structures described in Example 4, *supra;* provide, for the first time, specific interactions that stabilize an FGF ligand-receptor complex and, moreover, additional interactions between SOS and a second FGF receptor which stabilize dimerization. The results presented in these example therefore provide an excellent framework for the development of novel therapeutic agents. The discovery is particularly useful in view of the current limitations in large-scale preparation of homogenous heparin oligosaccharides for therapeutic purposes (see, Pervin *et al.*, 1995). In contrast, total *de novo* synthesis of homogenously sulfated sucrose derivatives is straightforward and known in the art. See, for example, Vlahov *et al.*, *J. Carbohydr. Chem.* 1997, 16:1-10; Polat *et al.*, *J. Carbohydr. Chem.* 1997, 16:1319-1325; and Bazin *et al.*, *Carbohydr. Res.* 1998, 309:189-205. Exemplary, non-limiting examples of such therapeutic compounds are described here, along with some particular examples of their utility as therapeutic agents.

Heparin antagonists. Compounds that may be used as therapeutic agents of the present invention include ones that function or are likely to function as heparin antagonist by competing with heparin to sequester FGF-FGFR complexes in a "signaling-incompetent" state. In particular, preferred therapeutic compounds of the invention include suramin and derivatives of sucrose octasulfate (SOS) that retain SOS's ability to generate stable FGF-FGFR complexes while, at the same time, inhibiting dimerization or signaling ability of those complexes. Example 5, described *supra,* demonstrates that suramin can interact with a pre-

formed FGF ligand-receptor complex, thereby stabilizing the interaction, while inhibiting signaling through the FGF receptor. Other exemplary heparin antagonists of the invention include derivatives of compounds such as inositol hexasulfate and sulfated β-cyclodextrin, as well as derivatives of other compounds that behave in an analogous manner to SOS and promote signaling competent dimers of the FGF ligand and receptor. As with heparin antagonists that are derivatives of SOS, heparin antagonists that are derivatives of some other compound (*e.g.*, inositol hexasulfate or sulfated β-cyclodextrin) have the ability to generate stable FGF-FGFR complexes while, at the same time, inhibiting dimerization of those complexes. Thus, preferred heparin antagonists are compounds that generate stable, dimerization incompetent complexes of FGF-FGFR.

In one preferred embodiment, heparin antagonists of the invention include SOS derivatives having one or more substitutions of sulfates that are involved in stabilizing interactions between a first FGF-FGFR complex and a second FGF receptor. Specific examples of such substitutions, that are particularly preferred, including substitutions at either the 2- and/or the 1' positions of SOS. Preferred substitutions include, but are not limited to, substitutions of a bulky group such as a benzyl, benzoyl, pivaloyl, fatty acyl, trityl or isopropylidene moiety for one or more sulfate moieties. However, any moiety that may be reasonably expected to block or inhibit hydrogen bonding interactions between SOS and FGFR which stabilize dimerization may be used as a substituent.

In another preferred embodiment, the heparin antagonist of the invention is suramin, a polysulfonated napthylurea that induces dimerization of pre-formed binary FGF2-FGFR1 complexes that are signaling incompetent. Without being limited to a particular mechanism or theory, the non-productive dimers may be a result of nonproductive spatial positioning of the FGFR D3 regions in the dimeric assemblies. However, the preliminary data presented in Example 5, *supra*, cannot exclude other potential models.

In yet another preferred embodiment, heparin antagonists of the invention include sulfated derivatives of a cyclodextrin compound such as sulfated derivatives of α-cyclodextrin, β-cyclodextrin and γ-cyclodextrin. Cyclodextrin compounds are known in the art (see, for example, Hileman *et al.*, *Electrophoresis* 1998, 19(15):2677-2681). The compounds are generally defined as a cyclic ring of 1 → 4 linked glucose residues. A general structural formula for derivatives of a preferred cyclodextrin, β-cyclodextrin, is provided in

FIG. 14 (Structure VIII).

Cyclodextrin compounds are typically classified based on the number of 1 → 4 linked glucose residues present in the ring, with rings of between 6 and 12 glucose residues being preferred. Rings of 6, 7 and 8 glucose residues are particularly preferred. Thus, cyclodextrin compounds that comprise a ring of six 1 → 4 linked glucose residues (*i.e.*, n = 6) are referred to as α-cyclodextrin compounds. Cyclodextrin compounds that comprise a ring of seven 1 → 4 linked glucose residues are referred to as β-cyclodextrin compounds (**FIG. 14**, Structure VIII) and cyclodextrin compounds that comprise a ring of eight 1 → 4 linked glucose residues are referred to as γ-cyclodextrin compounds. Referring to the general structure provided in **FIG. 14** (Structure VIII), each of the group labeled "R" on each of the glucose residues is generally a hydrogen. However, other chemical moieties may be substituted for these groups to form cyclodextrin derivative compounds, such as sulfated cyclodextrin or sulfonated cyclodextrins.

Preferred cyclodextrin compounds that are heparin antagonists are sulfated cyclodextrin. Each group R on each of the glucose residues in a sulfated cyclodextrin preferably is independently a hydrogen (H) or a sulfate group (SH). At least one sulfate group must be present. However, it is more preferably that at least about 50% or more (*e.g.*, at least 60%, 70%, 80%, 90%, 95%, 99% or 100%) of the cyclodextrin hydroxyl residues is sulfated. Generally, a sulfated cyclodextrin molecule used in the methods and compositions of the present invention may comprise a mixture of sulfated cyclodextrin molecules, with each molecule preferably comprising the same number of glucose residues in the cyclodextrin ring but having different hydroxyl residues and/or different numbers of hydroxyl residues substituted with a sulfate group.

Heparin antagonists, such as the ones described hereabove, are expected to inhibit dimerization or signaling of an FGF receptor and therefore decrease FGFR mediated signaling. Such compounds may be useful, therefore, as agents for inhibiting biological activities associated with FGFR signaling or activity including, for example, angiogenesis and tumor growth.

FIGS. 8-11 illustrate the exemplary synthesis of six other preferred SOS derivatives (structures I, II III, IV, V and VI) that may be used as heparin antagonists in the present invention. For example, in one preferred embodiment the SOS derivative may be 2-

O-Bn sucrose heptasulfate (structure I). In another preferred embodiment an SOS derivative may be 1'-*O*-Bn sucrose heptasulfate (structure II). In yet another preferred embodiment, an SOS derivative of the invention may be 1',2-di-*O*-Bn sucrose hexasulfate (structure III). Other preferred, exemplary SOS derivatives of the invention may include 4,6-*O*-isopropyliden sucrose hexasulfate (Structure IV), 6'-*O*-hexadecanoyl sucrose heptasulfate (Structure V) and 2-*)*-dodecanoyl, 6'-*O*-hexadecanoyl sucrose hexasulfate. Still other compounds, including other SOS derivatives, which may be used in the methods of this invention will be readily apparent to those skilled in the art given what is taught in this specification. Such compounds may also be readily synthesized by chemical reactions such as the ones illustrated in **FIGS. 8** through 11 that are routine and well known in the art (see, for example, Pervin *et al.*, *Glycobiology* 1995, 5:83-95; Desai *et al.*, *Carbohydr. Res.* 1995, 275:391-401; Vlahov *et al.*, *J. Carbohydr. Chem.* 1997, 16:1-10; Polat *et al.*, *J. Carbohydr. Chem.* 1997, 16:1319-1325; Bazin *et al.*, *Carbohydr. Res.* 1998, 309:189-205; Jenner & Khan, *J.C.S. Chem. Comm.* 1980, pp. 50-51).

Heparin agonists. Compounds that may be used in the methods of this invention further include ones that function or are likely to function as heparin agonists. In particular, the compounds of the present invention include derivatives of sucrose octasulfate (SOS) and other compounds that enhance or promote the dimerization of FGF receptor-ligand complexes. Other exemplary heparin agonists of the invention include compounds such as inositol hexasulfate, sulfonated β-cyclodextrin, and derivatives thereof that enhance or promote the dimerization of FGF receptor-ligand complexes.

Generally, such compounds can be identified by those skilled in the art as having stabilizing interactions (for instance, hydrogen bonding interactions) in an FGF-FGFR dimer structure that preserve the stabilizing interactions observed in the FGF-FGFR dimer structure described in the above Examples. Indeed, those skilled in the art will appreciate that compounds which may be used as heparin agonists in the present invention may even have stabilizing interactions that are stronger than, or at least similar to, those in the FGF-FGFR-SOS ternary complex structures described here.

The examples, *supra*, demonstrate that compounds such as SOS and derivatives thereof may effectively function as heparin agonists, and effectively increase cell

signaling activities mediated by an FGF ligand and/or its receptor. Thus, such compounds are useful for increasing activities that are associated with FGF signaling including, for example, tyrosine kinase activity and angiogenesis. Such compounds are particularly useful in applications where it is desirable to promote a biological activity stimulated by FGF signaling. For example, in one preferred embodiment a heparin agonist may be used to promote wound healing in an individual, *e.g.*, by promoting mitogenic activity. In other preferred embodiments, heparin agonists of the invention (for example, sulfated inositols and sulfated β-cyclodextrins) may be used to treat disorders such as stomach ulcers by promoting dimerization of an FGF receptor-ligand complex.

In particularly preferred embodiments, heparin agonists of the invention include sulfonated derivatives of a cyclodextrin compound, including sulfonated derivatives of α-cyclodextrin, β-cyclodextrin and γ-cyclodextrin. For instance, Example 7, *infra*, describes experiments demonstrating that sulfonated β-cyclodextrin is an effective heparin agonist.

Cyclodextrin compounds are described, *supra*, in connection with preferred heparin antagonists of this invention and a general structural formula for a derivatives of a preferred cyclodextrin, β-cyclodextrin, is provided in FIG. 14 (Structure VIII). Preferred cyclodextrin compounds that are heparin agonists are sulfonated cyclodextrins. Each group R on each of the glucose residues of a sulfonated cyclodextrin preferably is independently a hydrogen (H) or a sulfonate group (SO_3), although other substituents may also be present. At least one sulfonate group must be present. However, it is more preferable that at least about 50% or more (*e.g.*, at least 60%, 70%, 80%, 90%, 95% or 100%) of the cyclodextrin hydroxyl residues is sulfonated. Generally the sulfonated cyclodextrin molecules used in the methods and compositions of the present invention may comprise a mixture of sulfonated cyclodextrin molecules, with each molecule preferably comprising the same number of glucose residues in the cyclodextrin ring but having different hydroxyl residues and/or different numbers of hydroxyl residues substituted with a sulfonate group.

EXAMPLE 6: Suramin Promotes Formation of FGFR Dimers That Are Signal Incompetent

This example describes experiments that investigate the ability of another compound, suramin, to modulate FGF ligand-dependent activation of an FGF receptor.

Specifically, the data presented in this example demonstrates that suramin can interact with FGF receptor-ligand complexes, and promotes dimerization of the FGF receptor. Unlike SOS, however, the FGFR dimers formed with suramin are actually signaling incompetent. Thus, these examples demonstrate an alternative mechanism by which certain compounds, including suramin, may act as agonists or FGF-mediated signaling.

Suramin is a polysulfonated napthylurea with has the chemical structure set forth in **FIG. 12** (Structure VII). The compound has demonstrated anti-tumor activity against a variety of different types of cancers, including breast cancer, prostate cancer, sarcoma, colorectal cancer, Karposi's sarcoma, non-Hodgikin's lymphoma, renal cell carcinoma and adrenal carcinoma to name a few. See, for example, Voogd *et al.*, 1993; La Rocca *et al.*). The compound's anti-tumor activity may be due to an ability to bind to and inhibit FGF (see, Takano *et al.*, 1994; Waltenberger *et al.*, 1996). Indeed, suramin has been demonstrated to bind an FGF1 ligand and induce its aggregation (Middaugh *et al.*, 1992). At present, however, no structural data are available to indicate how suramin might interact with an FGF ligand or receptor.

In these experiments, two milligram aliquots of the purified FGF2-FGFR1 complex described, *supra*, in Example 1 were mixed with suramin and analyzed on a size exclusion column equilibrated with 25 mM HEPES-NaOH buffer (pH 7.5) containing 150 mM NaCl. The resulting chromatograms are shown in **FIGS. 13A-13D.**

In the absence of suramin (**FIG. 13A**), only a peak corresponding to monomers of the FGF:FGFR complex are observed, which is indicated by the letter M. A small peak, identified in **FIG. 13A** by the letter L, was also observed at higher elution volumes. This peak corresponds to free FGF ligand polypeptides that dissociates from the FGF:FGFR complex due to protein dilution during the chromatography process. As suramin is added to the mixture (**FIGS. 13B-13C**) a third peak corresponding to dimers of the FGF:FGFR complex is observed (identified by the letter D) while the intensity of the monomer peak (M) decreases. The intensities of the dimer and monomer peaks increase and decrease, respectively, as suramin is added in higher amounts (compare, *e.g.*, **FIG. 13B** to **FIG. 13C**). Finally, when suramin is added at a 1:1:1 molar ratio to FGF and FGFR (**FIG. 13D**) only a peak corresponding to the FGF:FGFR dimers is observed. Thus, these experiments yield the surprising result that suramin can bind to and promote dimerization of

preformed FGF-FGFR complexes.

Paradoxically, however, FGFR dimers promoted by suramin are signaling incompetent. That is to say, the FGF receptor is not activated in these dimers. To demonstrate this property, experiments that are essentially identical to those described, *supra*, in Example 2 were performed to investigate suramin's ability to modulate FGF ligand-dependent activation of the FGF receptor *in vivo*. However, in these experiments, BaF3 cells were grown in the presence of suramin, rather than heparin of SOS, and contacted with FGF ligand. However, no heparin-like or SOS-like activity was observed when these cells were cultured with suramin.

EXAMPLE 7: SULFONATED CYCLODEXTRIN PROMOTES ACTIVATION OF THE FGF RECEPTOR BY FGF IN CELLS

This examples describes experiments that investigate the ability of sulfonated β-cyclodextrin to function as an effective heparin agonists. In particular, the cell-based assay described in Example 2, *supra*, is used here to investigate the ability of sulfonated β-cyclodextrin to modulate FGF ligand-dependent activation of the FGF receptor *in vivo*.

The assay uses a BaF3 cell line which overexpresses FGFR1. This cell line has been previously described and is known in the art (see, *e.g.*, Huang *et al.*, *J. Biol. Chem.* 1995, 270:5065-5072). BaF3 cells are a lymphoid cell line, which are dependent on interleukin-3 (IL-3) for growth. Ordinarily these cells do not exhibit any response to FGF. However, when stably transfected to express an FGF receptor, the cells exhibit a dose-dependent mitogenic response to FGF ligand in the absence of IL-3. Accordingly, the growth rate of such transfected cells is useful as a measurement of FGF receptor activity *in vivo*. Ordinarily, because BaF3 cells express only low amounts of HSPG, soluble heparin must also be present to elicit the FGF-dependent mitogenic response observed in the transfected cells.

For the experiments described here, BaF3 cells that stably express wild-type FGFR1 (SEQ ID NO:3) were cultured according to standard methods that have been previously described (see, Huang *et al.*, *supra*). 1 x 10^4 cells were seeded in triplicate wells and grown in the presence of FGF1 ligand (50 ng/ml) and heparin (10 μg/ml) or, alternatively, in the presence of various concentrations of sulfonated β-cyclodextrin (1 μM., 5 μM, 10 μM and 25 μM, respectively). The numbers of viable cells in each well were counted daily in duplicate. Control experiments were also performed in which cells were

incubated with either FGF1 ligand alone (*i.e.* no heparin or sulfonated β-cyclodextrin) or in factor-free medium with neither FGF ligand, heparin or cyclodextrin derivatives.

Data from these experiments are graphically presented in **FIG. 15A** as mean and standard deviation values. As can be seen from inspecting that figure, sulfonated β-cyclodextrin supports the FGF ligand in inducing proliferation of the BaF3 cells over expressing FGFR1 in a dose-dependent manner. As expected, the BaF3 cells grow minimally without FGF ligand or when grown in the presence of FGF ligand alone (*i.e.*, without heparin or sulfonated β-cyclodextrin).

To verify that the effect of sulfonated β-cyclodextrin observed in **FIG. 15A** is actually due to activation of the FGF receptor, experiments were conducted that examined the capacity of heparin and β-cyclodextrin to stimulate kinase activity of FGF receptor in living cells. See, Mohammadi *et al.*, *Science* 1997, 276:955-960 for a detailed description of such experiments.

Briefly, BaF3 cells over-expressing FGFR were stimulated for five minutes with FGF1 ligand (50 ng/ml), heparin (10 μg/ml) and/or sulfonated β-cyclodextrin 5 or 25 μM). The cells were then lysed. Their proteins were immunoprecipitated with antibodies to FGFR1, separated by SDS-polyacrylamide gel electrophoresis (PAGE), immunoblotted with antibodies to phosphotyrosine, and detected by autoradiography. As expected, the FGF ligand stimulated autophosphorylation of the FGF receptor when incubated with cells in the presence of heparin, whereas no autophosphorylation of the receptor is observed when the cells are incubated in the presence of FGF1 ligand alone (*i.e.*, with no co-factors). *See*, the left-hand and right-hand lanes, respectively, in **FIG. 15B**. Incubation of cells with FGF1 ligand and sulfonated β-cyclodextrin also results in autophosphorylation of the FGF receptor, as illustrated in the middle lane of **FIG. 15B**.

Co-incubation of the cells with either heparin or sulfonated β-cyclodextrin also induces autophosphorylation of ERK-1 and ERK-2, two intracellular events that are dependent on the kinase activity of FGFR1 (**FIG. 15C**). By contrast, incubation of the cells with FGF1 alone (*i.e.*, no co-factor) resulted in no autophosphorylation of either ERK-1 or ERK-2.

Thus, the data from these experiments demonstrate that sulfonated cyclodextrin derivatives are effective heparin agonists and increase FGF receptor activity in

cells, thereby enhancing signaling by an FGF ligand.

REFERENCES CITED

Numerous references, including patents, patent applications and various publications, are cited and discussed in the description of this invention. The citation and/or discussion of such references is provided merely to clarify the description of the present invention and is not an admission that any such reference is "prior art" to the invention described herein. All references cited and discussed in this specification are incorporated herein by reference in their entirety and to the same extent as if each reference was individually incorporated by reference.

APPENDIX: CRYSTAL STRUCTURE COORDINATES FOR AN FGF-FGFR-SOS TERNARY COMPLEX

```
REMARK coordinates from restrained individual B-factor refinement
REMARK refinement resolution: 25 - 2.6 A
REMARK starting r= 0.2409 free_r= 0.2774
REMARK final    r= 0.2408 free_r= 0.2778
REMARK B rmsd for bonded mainchain atoms=  0.809  target= 1.5
REMARK B rmsd for bonded sidechain atoms=  1.077  target= 2.0
REMARK B rmsd for angle mainchain atoms=  1.458  target= 2.0
REMARK B rmsd for angle sidechain atoms=  1.726  target= 2.5
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REMARK rweight=0.148674
REMARK target= mlf  steps= 30
REMARK sg= P2(1)2(1)2(1) a= 64.193 b= 122.374 c= 219.490
REMARK alpha= 90.000 beta= 90.000 gamma= 90.000
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REMARK parameter file 2  : CNS_TOPPAR:dna-rna.param
REMARK parameter file 3  : CNS_TOPPAR:water_rep.param
REMARK parameter file 4  : CNS_TOPPAR:ion.param
REMARK parameter file 5  : SCR_par.txt
REMARK molecular structure file: 353sos.mtf
REMARK input coordinates: sos_19X.pdb
REMARK anomalous f' f'' library: anom_se.lib
REMARK reflection file= 353sos.hklt
REMARK ncs= restrain  ncs file= ncs.def
REMARK B-correction resolution: 6.0 - 2.6
REMARK initial B-factor correction applied to fobs :
REMARK   B11=   0.444 B22= -18.604 B33=  18.161
REMARK   B12=   0.000 B13=   0.000 B23=   0.000
REMARK B-factor correction applied to coordinate array B:   -0.119
REMARK bulk solvent: density level= 0.355606 e/A^3
REMARK B-factor= 25.0325 A^2
REMARK reflections with |Fobs|/sigma_F < 0.0 rejected
REMARK reflections with |Fobs| > 10000 * rms(Fobs) rejected
REMARK theoretical total number of refl. in resol. range:  54084(100.0%)
REMARK number of unobserved reflections (no entry or |F|=0):  2070(3.8%)
REMARK number of reflections rejected:  0(0.0%)
REMARK total number of reflections used:  52014 (96.2%)
REMARK number of reflections in working set:  49400 (91.3%)
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REMARK DATE:02-Jan-01  22:56:51       created by user: mohammad
REMARK VERSION:0.5

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ATOM     11  CE1 HIS    16      26.134  24.862  40.244  1.00 51.31
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ATOM	124	CG	PHE	30	15.081	23.415	14.413	1.00	30.62
ATOM	125	CD1	PHE	30	14.764	22.332	13.606	1.00	29.15
ATOM	126	CD2	PHE	30	15.186	24.681	13.838	1.00	30.76
ATOM	127	CE1	PHE	30	14.552	22.503	12.251	1.00	30.22
ATOM	128	CE2	PHE	30	14.974	24.866	12.471	1.00	30.76
ATOM	129	CZ	PHE	30	14.656	23.777	11.676	1.00	30.15
ATOM	130	C	PHE	30	16.791	23.313	17.817	1.00	32.26
ATOM	131	O	PHE	30	16.502	22.361	18.540	1.00	32.31
ATOM	132	N	PHE	31	17.144	24.500	18.290	1.00	32.25
ATOM	133	CA	PHE	31	17.188	24.772	19.722	1.00	32.64
ATOM	134	CB	PHE	31	18.133	25.927	20.004	1.00	31.32
ATOM	135	CG	PHE	31	19.591	25.580	19.855	1.00	31.32
ATOM	136	CD1	PHE	31	20.230	24.772	20.796	1.00	30.64
ATOM	137	CD2	PHE	31	20.342	26.095	18.795	1.00	30.62
ATOM	138	CE1	PHE	31	21.596	24.484	20.687	1.00	29.43
ATOM	139	CE2	PHE	31	21.705	25.812	18.679	1.00	29.89
ATOM	140	CZ	PHE	31	22.332	25.006	19.629	1.00	29.14
ATOM	141	C	PHE	31	15.782	25.157	20.177	1.00	33.39
ATOM	142	O	PHE	31	15.086	25.897	19.479	1.00	34.48
ATOM	143	N	LEU	32	15.350	24.649	21.325	1.00	33.04
ATOM	144	CA	LEU	32	14.028	24.986	21.830	1.00	33.28
ATOM	145	CB	LEU	32	13.728	24.198	23.104	1.00	33.00
ATOM	146	CG	LEU	32	12.331	24.399	23.703	1.00	33.25
ATOM	147	CD1	LEU	32	11.270	23.743	22.824	1.00	32.89
ATOM	148	CD2	LEU	32	12.297	23.790	25.089	1.00	33.74
ATOM	149	C	LEU	32	14.028	26.481	22.138	1.00	33.64
ATOM	150	O	LEU	32	14.908	26.971	22.844	1.00	33.63
ATOM	151	N	ARG	33	13.045	27.204	21.609	1.00	34.43
ATOM	152	CA	ARG	33	12.969	28.646	21.827	1.00	34.97
ATOM	153	CB	ARG	33	13.186	29.389	20.513	1.00	33.91
ATOM	154	CG	ARG	33	13.249	30.890	20.669	1.00	33.39
ATOM	155	CD	ARG	33	13.680	31.570	19.369	1.00	33.21
ATOM	156	NE	ARG	33	12.734	31.334	18.281	1.00	33.57
ATOM	157	CZ	ARG	33	12.845	31.857	17.059	1.00	33.45
ATOM	158	NH1	ARG	33	13.864	32.651	16.756	1.00	32.36
ATOM	159	NH2	ARG	33	11.938	31.581	16.135	1.00	32.74
ATOM	160	C	ARG	33	11.672	29.128	22.460	1.00	35.77
ATOM	161	O	ARG	33	10.574	28.771	22.031	1.00	35.95
ATOM	162	N	ILE	34	11.817	29.948	23.490	1.00	36.85
ATOM	163	CA	ILE	34	10.678	30.507	24.195	1.00	38.11
ATOM	164	CB	ILE	34	10.791	30.237	25.715	1.00	37.62
ATOM	165	CG2	ILE	34	9.704	30.988	26.461	1.00	36.83
ATOM	166	CG1	ILE	34	10.698	28.730	25.979	1.00	36.70
ATOM	167	CD1	ILE	34	10.892	28.345	27.430	1.00	37.36
ATOM	168	C	ILE	34	10.656	32.004	23.921	1.00	38.77
ATOM	169	O	ILE	34	11.515	32.738	24.397	1.00	38.44
ATOM	170	N	HIS	35	9.678	32.444	23.137	1.00	40.65
ATOM	171	CA	HIS	35	9.538	33.853	22.774	1.00	42.57
ATOM	172	CB	HIS	35	8.638	33.994	21.543	1.00	42.64
ATOM	173	CG	HIS	35	9.225	33.423	20.290	1.00	43.75
ATOM	174	CD2	HIS	35	9.000	32.248	19.653	1.00	43.70
ATOM	175	ND1	HIS	35	10.185	34.082	19.551	1.00	44.37
ATOM	176	CE1	HIS	35	10.524	33.338	18.512	1.00	44.66
ATOM	177	NE2	HIS	35	9.819	32.220	18.551	1.00	44.53
ATOM	178	C	HIS	35	8.939	34.681	23.902	1.00	43.65
ATOM	179	O	HIS	35	8.112	34.197	24.670	1.00	43.83
ATOM	180	N	PRO	36	9.347	35.952	24.009	1.00	45.01

ATOM	181	CD	PRO	36	10.350	36.645	23.180	1.00	45.93
ATOM	182	CA	PRO	36	8.832	36.842	25.052	1.00	45.83
ATOM	183	CB	PRO	36	9.462	38.184	24.700	1.00	45.55
ATOM	184	CG	PRO	36	10.755	37.792	24.073	1.00	46.12
ATOM	185	C	PRO	36	7.305	36.916	25.046	1.00	46.80
ATOM	186	O	PRO	36	6.689	37.107	26.091	1.00	47.50
ATOM	187	N	ASP	37	6.700	36.752	23.873	1.00	47.49
ATOM	188	CA	ASP	37	5.250	36.824	23.745	1.00	48.34
ATOM	189	CB	ASP	37	4.866	37.314	22.339	1.00	49.10
ATOM	190	CG	ASP	37	5.081	36.254	21.252	1.00	50.21
ATOM	191	OD1	ASP	37	4.340	35.247	21.242	1.00	50.76
ATOM	192	OD2	ASP	37	5.983	36.429	20.401	1.00	49.91
ATOM	193	C	ASP	37	4.524	35.515	24.044	1.00	48.65
ATOM	194	O	ASP	37	3.301	35.438	23.913	1.00	48.42
ATOM	195	N	GLY	38	5.266	34.485	24.438	1.00	48.59
ATOM	196	CA	GLY	38	4.631	33.213	24.744	1.00	48.28
ATOM	197	C	GLY	38	4.685	32.156	23.653	1.00	47.65
ATOM	198	O	GLY	38	4.202	31.043	23.842	1.00	47.29
ATOM	199	N	ARG	39	5.268	32.496	22.508	1.00	47.21
ATOM	200	CA	ARG	39	5.381	31.545	21.408	1.00	46.53
ATOM	201	CB	ARG	39	5.535	32.269	20.070	1.00	46.19
ATOM	202	CG	ARG	39	4.259	32.830	19.488	1.00	45.95
ATOM	203	CD	ARG	39	4.559	33.524	18.175	1.00	46.28
ATOM	204	NE	ARG	39	5.588	34.547	18.340	1.00	45.77
ATOM	205	CZ	ARG	39	6.647	34.674	17.547	1.00	46.38
ATOM	206	NH1	ARG	39	7.533	35.636	17.780	1.00	46.10
ATOM	207	NH2	ARG	39	6.822	33.836	16.524	1.00	46.14
ATOM	208	C	ARG	39	6.575	30.619	21.596	1.00	45.86
ATOM	209	O	ARG	39	7.654	31.060	21.991	1.00	46.25
ATOM	210	N	VAL	40	6.377	29.338	21.308	1.00	44.53
ATOM	211	CA	VAL	40	7.446	28.354	21.431	1.00	43.43
ATOM	212	CB	VAL	40	7.111	27.264	22.470	1.00	42.18
ATOM	213	CG1	VAL	40	8.268	26.287	22.582	1.00	41.55
ATOM	214	CG2	VAL	40	6.835	27.891	23.808	1.00	41.76
ATOM	215	C	VAL	40	7.713	27.660	20.100	1.00	43.16
ATOM	216	O	VAL	40	6.793	27.152	19.458	1.00	43.30
ATOM	217	N	ASP	41	8.973	27.644	19.687	1.00	42.42
ATOM	218	CA	ASP	41	9.364	26.986	18.446	1.00	41.97
ATOM	219	CB	ASP	41	9.053	27.875	17.240	1.00	40.91
ATOM	220	CG	ASP	41	9.874	29.148	17.219	1.00	41.31
ATOM	221	OD1	ASP	41	9.666	29.969	16.304	1.00	41.93
ATOM	222	OD2	ASP	41	10.732	29.336	18.108	1.00	41.72
ATOM	223	C	ASP	41	10.859	26.670	18.507	1.00	41.82
ATOM	224	O	ASP	41	11.461	26.691	19.583	1.00	41.15
ATOM	225	N	GLY	42	11.454	26.376	17.358	1.00	41.58
ATOM	226	CA	GLY	42	12.873	26.076	17.339	1.00	41.56
ATOM	227	C	GLY	42	13.650	26.897	16.324	1.00	41.64
ATOM	228	O	GLY	42	13.092	27.396	15.349	1.00	41.88
ATOM	229	N	VAL	43	14.943	27.059	16.574	1.00	41.45
ATOM	230	CA	VAL	43	15.819	27.780	15.666	1.00	41.09
ATOM	231	CB	VAL	43	15.923	29.266	16.002	1.00	41.11
ATOM	232	CG1	VAL	43	14.600	29.927	15.702	1.00	41.85
ATOM	233	CG2	VAL	43	16.320	29.460	17.456	1.00	40.06
ATOM	234	C	VAL	43	17.189	27.162	15.741	1.00	41.13
ATOM	235	O	VAL	43	17.559	26.585	16.756	1.00	40.93
ATOM	236	N	ARG	44	17.941	27.279	14.656	1.00	41.51
ATOM	237	CA	ARG	44	19.267	26.705	14.603	1.00	41.23
ATOM	238	CB	ARG	44	19.535	26.193	13.201	1.00	39.47
ATOM	239	CG	ARG	44	18.788	24.906	12.906	1.00	38.20
ATOM	240	CD	ARG	44	18.874	24.564	11.455	1.00	37.03
ATOM	241	NE	ARG	44	18.455	23.198	11.197	1.00	36.73
ATOM	242	CZ	ARG	44	17.801	22.821	10.104	1.00	36.87

ATOM	243	NH1	ARG	44	17.486	23.716	9.174	1.00	36.61
ATOM	244	NH2	ARG	44	17.477	21.549	9.930	1.00	35.75
ATOM	245	C	ARG	44	20.363	27.641	15.049	1.00	42.52
ATOM	246	O	ARG	44	21.406	27.190	15.501	1.00	43.57
ATOM	247	N	GLU	45	20.127	28.942	14.949	1.00	43.99
ATOM	248	CA	GLU	45	21.130	29.921	15.356	1.00	45.63
ATOM	249	CB	GLU	45	20.662	31.329	14.978	1.00	46.78
ATOM	250	CG	GLU	45	21.697	32.412	15.235	1.00	48.93
ATOM	251	CD	GLU	45	22.977	32.197	14.438	1.00	50.48
ATOM	252	OE1	GLU	45	22.904	32.181	13.184	1.00	51.97
ATOM	253	OE2	GLU	45	24.053	32.045	15.065	1.00	50.49
ATOM	254	C	GLU	45	21.421	29.856	16.856	1.00	45.57
ATOM	255	O	GLU	45	20.590	30.238	17.673	1.00	45.09
ATOM	256	N	LYS	46	22.614	29.379	17.201	1.00	46.06
ATOM	257	CA	LYS	46	23.030	29.247	18.592	1.00	46.74
ATOM	258	CB	LYS	46	24.396	28.553	18.660	1.00	46.79
ATOM	259	CG	LYS	46	25.061	28.592	20.038	1.00	47.95
ATOM	260	CD	LYS	46	25.708	27.261	20.403	1.00	48.10
ATOM	261	CE	LYS	46	26.700	27.403	21.553	1.00	48.89
ATOM	262	NZ	LYS	46	27.971	28.065	21.117	1.00	49.06
ATOM	263	C	LYS	46	23.077	30.565	19.367	1.00	47.09
ATOM	264	O	LYS	46	23.012	30.572	20.603	1.00	47.49
ATOM	265	N	SER	47	23.170	31.679	18.648	1.00	46.92
ATOM	266	CA	SER	47	23.242	32.990	19.285	1.00	46.51
ATOM	267	CB	SER	47	24.067	33.946	18.420	1.00	46.05
ATOM	268	OG	SER	47	23.487	34.109	17.137	1.00	46.10
ATOM	269	C	SER	47	21.887	33.626	19.596	1.00	46.68
ATOM	270	O	SER	47	21.831	34.697	20.204	1.00	46.55
ATOM	271	N	ASP	48	20.798	32.987	19.176	1.00	46.40
ATOM	272	CA	ASP	48	19.477	33.537	19.455	1.00	46.21
ATOM	273	CB	ASP	48	18.381	32.591	18.967	1.00	46.23
ATOM	274	CG	ASP	48	17.003	33.219	19.042	1.00	46.68
ATOM	275	OD1	ASP	48	16.327	33.313	17.998	1.00	47.11
ATOM	276	OD2	ASP	48	16.595	33.626	20.147	1.00	47.69
ATOM	277	C	ASP	48	19.374	33.736	20.968	1.00	46.01
ATOM	278	O	ASP	48	19.760	32.866	21.750	1.00	46.53
ATOM	279	N	PRO	49	18.857	34.891	21.403	1.00	45.50
ATOM	280	CD	PRO	49	18.476	36.072	20.608	1.00	45.51
ATOM	281	CA	PRO	49	18.731	35.162	22.838	1.00	45.10
ATOM	282	CB	PRO	49	18.564	36.682	22.879	1.00	45.08
ATOM	283	CG	PRO	49	17.772	36.942	21.629	1.00	45.21
ATOM	284	C	PRO	49	17.606	34.439	23.581	1.00	44.24
ATOM	285	O	PRO	49	17.645	34.319	24.807	1.00	44.38
ATOM	286	N	HIS	50	16.618	33.947	22.843	1.00	43.12
ATOM	287	CA	HIS	50	15.479	33.281	23.458	1.00	41.52
ATOM	288	CB	HIS	50	14.210	33.653	22.704	1.00	41.66
ATOM	289	CG	HIS	50	14.071	35.121	22.463	1.00	42.30
ATOM	290	CD2	HIS	50	13.926	35.828	21.318	1.00	42.60
ATOM	291	ND1	HIS	50	14.084	36.045	23.484	1.00	42.47
ATOM	292	CE1	HIS	50	13.954	37.259	22.980	1.00	42.34
ATOM	293	NE2	HIS	50	13.856	37.155	21.667	1.00	42.47
ATOM	294	C	HIS	50	15.564	31.771	23.570	1.00	40.32
ATOM	295	O	HIS	50	14.539	31.113	23.710	1.00	40.32
ATOM	296	N	ILE	51	16.769	31.215	23.505	1.00	39.52
ATOM	297	CA	ILE	51	16.923	29.766	23.630	1.00	38.51
ATOM	298	CB	ILE	51	17.654	29.138	22.411	1.00	38.26
ATOM	299	CG2	ILE	51	16.797	29.306	21.156	1.00	36.50
ATOM	300	CG1	ILE	51	19.056	29.744	22.261	1.00	38.02
ATOM	301	CD1	ILE	51	19.892	29.091	21.186	1.00	37.88
ATOM	302	C	ILE	51	17.662	29.391	24.913	1.00	38.14
ATOM	303	O	ILE	51	17.821	28.215	25.223	1.00	37.89
ATOM	304	N	LYS	52	18.119	30.400	25.649	1.00	38.05

ATOM	305	CA	LYS	52	18.796	30.182	26.925	1.00	38.46
ATOM	306	CB	LYS	52	19.479	31.460	27.407	1.00	39.92
ATOM	307	CG	LYS	52	20.464	32.041	26.428	1.00	43.21
ATOM	308	CD	LYS	52	20.869	33.458	26.821	1.00	46.18
ATOM	309	CE	LYS	52	21.776	34.081	25.752	1.00	47.91
ATOM	310	NZ	LYS	52	22.998	33.244	25.518	1.00	48.79
ATOM	311	C	LYS	52	17.677	29.838	27.896	1.00	37.80
ATOM	312	O	LYS	52	16.835	30.686	28.214	1.00	37.80
ATOM	313	N	LEU	53	17.666	28.599	28.370	1.00	36.17
ATOM	314	CA	LEU	53	16.620	28.150	29.266	1.00	33.73
ATOM	315	CB	LEU	53	15.942	26.928	28.648	1.00	32.80
ATOM	316	CG	LEU	53	15.591	27.119	27.168	1.00	31.74
ATOM	317	CD1	LEU	53	15.106	25.828	26.547	1.00	31.06
ATOM	318	CD2	LEU	53	14.528	28.182	27.058	1.00	31.89
ATOM	319	C	LEU	53	17.147	27.817	30.647	1.00	33.17
ATOM	320	O	LEU	53	18.310	27.487	30.822	1.00	32.86
ATOM	321	N	GLN	54	16.274	27.914	31.634	1.00	32.71
ATOM	322	CA	GLN	54	16.652	27.605	32.995	1.00	32.58
ATOM	323	CB	GLN	54	16.363	28.802	33.896	1.00	32.34
ATOM	324	CG	GLN	54	17.001	28.705	35.249	1.00	31.47
ATOM	325	CD	GLN	54	18.497	28.699	35.143	1.00	31.55
ATOM	326	OE1	GLN	54	19.068	29.545	34.465	1.00	32.74
ATOM	327	NE2	GLN	54	19.148	27.750	35.811	1.00	31.36
ATOM	328	C	GLN	54	15.827	26.400	33.432	1.00	32.20
ATOM	329	O	GLN	54	14.624	26.511	33.648	1.00	33.12
ATOM	330	N	LEU	55	16.478	25.249	33.541	1.00	31.21
ATOM	331	CA	LEU	55	15.816	24.025	33.939	1.00	30.46
ATOM	332	CB	LEU	55	16.482	22.845	33.232	1.00	29.98
ATOM	333	CG	LEU	55	16.557	23.052	31.714	1.00	29.60
ATOM	334	CD1	LEU	55	17.358	21.971	31.048	1.00	29.73
ATOM	335	CD2	LEU	55	15.159	23.054	31.162	1.00	29.86
ATOM	336	C	LEU	55	15.933	23.917	35.450	1.00	30.59
ATOM	337	O	LEU	55	17.026	23.876	36.004	1.00	31.00
ATOM	338	N	GLN	56	14.786	23.879	36.114	1.00	31.09
ATOM	339	CA	GLN	56	14.727	23.826	37.565	1.00	30.72
ATOM	340	CB	GLN	56	14.075	25.125	38.060	1.00	29.53
ATOM	341	CG	GLN	56	13.885	25.231	39.551	1.00	29.08
ATOM	342	CD	GLN	56	15.195	25.215	40.319	1.00	29.28
ATOM	343	OE1	GLN	56	16.022	26.117	40.180	1.00	27.65
ATOM	344	NE2	GLN	56	15.383	24.185	41.147	1.00	29.56
ATOM	345	C	GLN	56	13.938	22.610	38.049	1.00	30.75
ATOM	346	O	GLN	56	12.785	22.419	37.677	1.00	31.32
ATOM	347	N	ALA	57	14.563	21.788	38.880	1.00	30.82
ATOM	348	CA	ALA	57	13.891	20.612	39.407	1.00	31.62
ATOM	349	CB	ALA	57	14.905	19.669	40.031	1.00	29.49
ATOM	350	C	ALA	57	12.893	21.071	40.459	1.00	32.63
ATOM	351	O	ALA	57	13.217	21.929	41.285	1.00	32.89
ATOM	352	N	GLU	58	11.685	20.515	40.420	1.00	32.95
ATOM	353	CA	GLU	58	10.647	20.851	41.387	1.00	33.67
ATOM	354	CB	GLU	58	9.290	20.862	40.702	1.00	33.94
ATOM	355	CG	GLU	58	8.277	21.746	41.379	1.00	34.98
ATOM	356	CD	GLU	58	8.813	23.140	41.604	1.00	35.72
ATOM	357	OE1	GLU	58	9.533	23.653	40.716	1.00	37.44
ATOM	358	OE2	GLU	58	8.509	23.729	42.658	1.00	36.47
ATOM	359	C	GLU	58	10.700	19.745	42.434	1.00	34.07
ATOM	360	O	GLU	58	10.379	19.938	43.605	1.00	33.94
ATOM	361	N	GLU	59	11.105	18.572	41.971	1.00	34.50
ATOM	362	CA	GLU	59	11.283	17.398	42.807	1.00	34.71
ATOM	363	CB	GLU	59	9.948	16.806	43.244	1.00	34.51
ATOM	364	CG	GLU	59	9.123	16.202	42.170	1.00	35.87
ATOM	365	CD	GLU	59	7.769	15.816	42.707	1.00	37.28
ATOM	366	OE1	GLU	59	6.988	16.742	43.031	1.00	37.78

ATOM	367	OE2	GLU	59	7.495	14.598	42.825	1.00	37.92
ATOM	368	C	GLU	59	12.083	16.420	41.971	1.00	34.27
ATOM	369	O	GLU	59	12.424	16.727	40.834	1.00	34.69
ATOM	370	N	ARG	60	12.405	15.257	42.522	1.00	34.11
ATOM	371	CA	ARG	60	13.198	14.284	41.782	1.00	33.43
ATOM	372	CB	ARG	60	13.335	12.975	42.561	1.00	34.80
ATOM	373	CG	ARG	60	14.590	12.869	43.384	1.00	37.91
ATOM	374	CD	ARG	60	14.742	11.464	43.954	1.00	40.21
ATOM	375	NE	ARG	60	14.480	10.470	42.918	1.00	44.07
ATOM	376	CZ	ARG	60	14.911	9.208	42.934	1.00	45.24
ATOM	377	NH1	ARG	60	15.643	8.757	43.942	1.00	44.84
ATOM	378	NH2	ARG	60	14.610	8.396	41.924	1.00	45.82
ATOM	379	C	ARG	60	12.685	13.964	40.388	1.00	31.80
ATOM	380	O	ARG	60	11.559	13.502	40.220	1.00	31.15
ATOM	381	N	GLY	61	13.531	14.218	39.395	1.00	30.60
ATOM	382	CA	GLY	61	13.200	13.916	38.013	1.00	29.48
ATOM	383	C	GLY	61	12.147	14.778	37.351	1.00	28.97
ATOM	384	O	GLY	61	11.782	14.540	36.199	1.00	28.95
ATOM	385	N	VAL	62	11.656	15.780	38.074	1.00	28.54
ATOM	386	CA	VAL	62	10.627	16.679	37.554	1.00	27.15
ATOM	387	CB	VAL	62	9.395	16.718	38.487	1.00	25.88
ATOM	388	CG1	VAL	62	8.448	17.817	38.053	1.00	22.76
ATOM	389	CG2	VAL	62	8.680	15.364	38.469	1.00	25.15
ATOM	390	C	VAL	62	11.179	18.088	37.456	1.00	27.19
ATOM	391	O	VAL	62	11.647	18.636	38.448	1.00	27.64
ATOM	392	N	VAL	63	11.116	18.683	36.270	1.00	26.77
ATOM	393	CA	VAL	63	11.619	20.040	36.095	1.00	26.70
ATOM	394	CB	VAL	63	12.911	20.057	35.236	1.00	26.17
ATOM	395	CG1	VAL	63	13.946	19.123	35.822	1.00	25.10
ATOM	396	CG2	VAL	63	12.588	19.656	33.812	1.00	25.90
ATOM	397	C	VAL	63	10.631	20.996	35.423	1.00	27.27
ATOM	398	O	VAL	63	9.608	20.583	34.872	1.00	27.24
ATOM	399	N	SER	64	10.958	22.281	35.497	1.00	27.10
ATOM	400	CA	SER	64	10.184	23.325	34.856	1.00	27.15
ATOM	401	CB	SER	64	9.714	24.383	35.860	1.00	27.28
ATOM	402	OG	SER	64	10.732	25.312	36.206	1.00	27.39
ATOM	403	C	SER	64	11.205	23.919	33.889	1.00	27.74
ATOM	404	O	SER	64	12.408	23.908	34.156	1.00	28.32
ATOM	405	N	ILE	65	10.738	24.427	32.764	1.00	27.80
ATOM	406	CA	ILE	65	11.633	24.982	31.769	1.00	28.35
ATOM	407	CB	ILE	65	11.512	24.168	30.468	1.00	27.17
ATOM	408	CG2	ILE	65	12.444	24.709	29.419	1.00	26.25
ATOM	409	CG1	ILE	65	11.812	22.695	30.773	1.00	27.35
ATOM	410	CD1	ILE	65	11.570	21.747	29.611	1.00	27.91
ATOM	411	C	ILE	65	11.282	26.446	31.538	1.00	29.42
ATOM	412	O	ILE	65	10.243	26.767	30.968	1.00	29.87
ATOM	413	N	LYS	66	12.159	27.330	31.985	1.00	30.13
ATOM	414	CA	LYS	66	11.925	28.755	31.861	1.00	31.66
ATOM	415	CB	LYS	66	12.102	29.407	33.234	1.00	32.15
ATOM	416	CG	LYS	66	11.817	30.878	33.255	1.00	33.67
ATOM	417	CD	LYS	66	12.204	31.476	34.583	1.00	34.82
ATOM	418	CE	LYS	66	11.748	32.922	34.672	1.00	36.66
ATOM	419	NZ	LYS	66	12.031	33.530	36.011	1.00	38.73
ATOM	420	C	LYS	66	12.822	29.454	30.848	1.00	31.95
ATOM	421	O	LYS	66	14.043	29.331	30.905	1.00	32.37
ATOM	422	N	GLY	67	12.210	30.188	29.926	1.00	32.75
ATOM	423	CA	GLY	67	12.979	30.926	28.941	1.00	34.20
ATOM	424	C	GLY	67	13.478	32.164	29.656	1.00	35.22
ATOM	425	O	GLY	67	12.688	33.018	30.037	1.00	36.31
ATOM	426	N	VAL	68	14.785	32.260	29.850	1.00	35.63
ATOM	427	CA	VAL	68	15.375	33.383	30.561	1.00	37.07
ATOM	428	CB	VAL	68	16.900	33.314	30.483	1.00	36.39

ATOM	429	CG1	VAL	68	17.509	34.445	31.278	1.00	35.24
ATOM	430	CG2	VAL	68	17.371	31.969	31.010	1.00	36.82
ATOM	431	C	VAL	68	14.928	34.780	30.121	1.00	38.09
ATOM	432	O	VAL	68	14.363	35.537	30.912	1.00	38.43
ATOM	433	N	SER	69	15.179	35.133	28.870	1.00	38.89
ATOM	434	CA	SER	69	14.787	36.454	28.412	1.00	39.28
ATOM	435	CB	SER	69	15.455	36.780	27.080	1.00	38.34
ATOM	436	OG	SER	69	14.629	36.377	26.013	1.00	39.34
ATOM	437	C	SER	69	13.270	36.616	28.293	1.00	39.46
ATOM	438	O	SER	69	12.751	37.704	28.518	1.00	40.48
ATOM	439	N	ALA	70	12.555	35.551	27.952	1.00	39.48
ATOM	440	CA	ALA	70	11.102	35.645	27.826	1.00	39.59
ATOM	441	CB	ALA	70	10.565	34.441	27.064	1.00	39.12
ATOM	442	C	ALA	70	10.436	35.724	29.190	1.00	39.70
ATOM	443	O	ALA	70	9.306	36.191	29.320	1.00	40.04
ATOM	444	N	ASN	71	11.144	35.254	30.208	1.00	39.82
ATOM	445	CA	ASN	71	10.633	35.246	31.567	1.00	39.73
ATOM	446	CB	ASN	71	10.442	36.683	32.077	1.00	39.99
ATOM	447	CG	ASN	71	10.387	36.761	33.603	1.00	40.30
ATOM	448	OD1	ASN	71	11.195	36.140	34.287	1.00	40.54
ATOM	449	ND2	ASN	71	9.441	37.531	34.135	1.00	39.59
ATOM	450	C	ASN	71	9.314	34.477	31.629	1.00	39.75
ATOM	451	O	ASN	71	8.403	34.835	32.379	1.00	40.53
ATOM	452	N	ARG	72	9.217	33.416	30.834	1.00	38.92
ATOM	453	CA	ARG	72	8.022	32.580	30.807	1.00	38.05
ATOM	454	CB	ARG	72	7.269	32.768	29.495	1.00	37.29
ATOM	455	CG	ARG	72	6.533	34.076	29.361	1.00	37.12
ATOM	456	CD	ARG	72	6.058	34.238	27.921	1.00	37.64
ATOM	457	NE	ARG	72	5.254	35.439	27.721	1.00	37.13
ATOM	458	CZ	ARG	72	3.935	35.495	27.863	1.00	36.23
ATOM	459	NH1	ARG	72	3.245	34.419	28.201	1.00	35.39
ATOM	460	NH2	ARG	72	3.308	36.641	27.674	1.00	36.87
ATOM	461	C	ARG	72	8.395	31.105	30.958	1.00	37.94
ATOM	462	O	ARG	72	9.508	30.697	30.625	1.00	37.86
ATOM	463	N	TYR	73	7.451	30.313	31.455	1.00	37.74
ATOM	464	CA	TYR	73	7.652	28.883	31.655	1.00	36.75
ATOM	465	CB	TYR	73	7.085	28.449	33.002	1.00	36.28
ATOM	466	CG	TYR	73	7.695	29.181	34.149	1.00	35.96
ATOM	467	CD1	TYR	73	7.225	30.438	34.529	1.00	36.06
ATOM	468	CE1	TYR	73	7.835	31.148	35.554	1.00	35.44
ATOM	469	CD2	TYR	73	8.787	28.650	34.823	1.00	35.68
ATOM	470	CE2	TYR	73	9.407	29.349	35.843	1.00	36.31
ATOM	471	CZ	TYR	73	8.928	30.596	36.204	1.00	36.67
ATOM	472	OH	TYR	73	9.564	31.281	37.209	1.00	38.11
ATOM	473	C	TYR	73	6.972	28.067	30.572	1.00	36.72
ATOM	474	O	TYR	73	5.833	28.337	30.198	1.00	37.00
ATOM	475	N	LEU	74	7.666	27.054	30.080	1.00	36.29
ATOM	476	CA	LEU	74	7.104	26.201	29.055	1.00	35.89
ATOM	477	CB	LEU	74	8.177	25.246	28.536	1.00	34.95
ATOM	478	CG	LEU	74	7.730	24.233	27.488	1.00	33.69
ATOM	479	CD1	LEU	74	7.607	24.944	26.150	1.00	34.02
ATOM	480	CD2	LEU	74	8.731	23.095	27.408	1.00	33.30
ATOM	481	C	LEU	74	5.949	25.406	29.652	1.00	36.28
ATOM	482	O	LEU	74	6.042	24.907	30.776	1.00	35.45
ATOM	483	N	ALA	75	4.862	25.292	28.895	1.00	37.11
ATOM	484	CA	ALA	75	3.691	24.545	29.344	1.00	38.41
ATOM	485	CB	ALA	75	2.660	25.491	29.960	1.00	37.93
ATOM	486	C	ALA	75	3.068	23.818	28.170	1.00	39.32
ATOM	487	O	ALA	75	3.084	24.323	27.048	1.00	39.85
ATOM	488	N	MET	76	2.530	22.629	28.427	1.00	40.20
ATOM	489	CA	MET	76	1.860	21.856	27.386	1.00	41.55
ATOM	490	CB	MET	76	2.420	20.438	27.279	1.00	41.81

ATOM	491	CG	MET	76	1.754	19.646	26.172	1.00	41.84
ATOM	492	SD	MET	76	2.515	18.069	25.840	1.00	45.00
ATOM	493	CE	MET	76	1.593	17.044	26.896	1.00	44.29
ATOM	494	C	MET	76	0.382	21.786	27.743	1.00	42.49
ATOM	495	O	MET	76	0.024	21.447	28.872	1.00	41.69
ATOM	496	N	LYS	77	-0.475	22.093	26.775	1.00	43.54
ATOM	497	CA	LYS	77	-1.906	22.106	27.019	1.00	44.58
ATOM	498	CB	LYS	77	-2.553	23.140	26.113	1.00	44.50
ATOM	499	CG	LYS	77	-1.814	24.457	26.102	1.00	45.41
ATOM	500	CD	LYS	77	-2.451	25.481	27.027	1.00	46.70
ATOM	501	CE	LYS	77	-2.364	25.068	28.474	1.00	46.80
ATOM	502	NZ	LYS	77	-2.880	26.148	29.356	1.00	47.00
ATOM	503	C	LYS	77	-2.585	20.755	26.842	1.00	44.85
ATOM	504	O	LYS	77	-1.953	19.778	26.443	1.00	44.74
ATOM	505	N	GLU	78	-3.880	20.728	27.146	1.00	45.05
ATOM	506	CA	GLU	78	-4.711	19.537	27.057	1.00	45.21
ATOM	507	CB	GLU	78	-6.124	19.865	27.531	1.00	44.54
ATOM	508	CG	GLU	78	-6.904	20.817	26.625	1.00	44.11
ATOM	509	CD	GLU	78	-6.328	22.231	26.562	1.00	44.45
ATOM	510	OE1	GLU	78	-5.909	22.770	27.615	1.00	43.37
ATOM	511	OE2	GLU	78	-6.316	22.815	25.453	1.00	44.41
ATOM	512	C	GLU	78	-4.787	18.964	25.647	1.00	45.90
ATOM	513	O	GLU	78	-4.994	17.760	25.465	1.00	46.07
ATOM	514	N	ASP	79	-4.642	19.828	24.647	1.00	45.95
ATOM	515	CA	ASP	79	-4.695	19.382	23.256	1.00	45.54
ATOM	516	CB	ASP	79	-5.215	20.495	22.342	1.00	45.86
ATOM	517	CG	ASP	79	-4.272	21.680	22.279	1.00	47.04
ATOM	518	OD1	ASP	79	-4.444	22.551	21.398	1.00	47.93
ATOM	519	OD2	ASP	79	-3.354	21.748	23.120	1.00	47.75
ATOM	520	C	ASP	79	-3.317	18.956	22.771	1.00	44.86
ATOM	521	O	ASP	79	-3.184	18.346	21.711	1.00	45.40
ATOM	522	N	GLY	80	-2.291	19.288	23.543	1.00	43.77
ATOM	523	CA	GLY	80	-0.942	18.922	23.166	1.00	42.64
ATOM	524	C	GLY	80	-0.095	20.066	22.639	1.00	42.17
ATOM	525	O	GLY	80	1.094	19.885	22.374	1.00	41.86
ATOM	526	N	ARG	81	-0.683	21.248	22.483	1.00	41.13
ATOM	527	CA	ARG	81	0.093	22.373	21.970	1.00	40.34
ATOM	528	CB	ARG	81	-0.845	23.457	21.409	1.00	39.97
ATOM	529	CG	ARG	81	-1.616	24.242	22.436	1.00	39.13
ATOM	530	CD	ARG	81	-2.404	25.358	21.781	1.00	38.12
ATOM	531	NE	ARG	81	-3.042	26.185	22.795	1.00	38.02
ATOM	532	CZ	ARG	81	-3.965	25.734	23.639	1.00	38.95
ATOM	533	NH1	ARG	81	-4.361	24.464	23.580	1.00	38.84
ATOM	534	NH2	ARG	81	-4.481	26.546	24.553	1.00	38.18
ATOM	535	C	ARG	81	0.995	22.950	23.046	1.00	39.91
ATOM	536	O	ARG	81	0.751	22.765	24.242	1.00	40.38
ATOM	537	N	LEU	82	2.056	23.631	22.616	1.00	38.75
ATOM	538	CA	LEU	82	3.022	24.222	23.540	1.00	37.93
ATOM	539	CB	LEU	82	4.456	23.802	23.171	1.00	36.21
ATOM	540	CG	LEU	82	4.829	22.315	23.052	1.00	34.01
ATOM	541	CD1	LEU	82	6.329	22.173	22.841	1.00	32.17
ATOM	542	CD2	LEU	82	4.406	21.582	24.304	1.00	32.98
ATOM	543	C	LEU	82	2.962	25.740	23.566	1.00	38.10
ATOM	544	O	LEU	82	2.668	26.383	22.559	1.00	38.60
ATOM	545	N	LEU	83	3.246	26.314	24.724	1.00	38.19
ATOM	546	CA	LEU	83	3.254	27.763	24.862	1.00	38.46
ATOM	547	CB	LEU	83	1.826	28.314	24.901	1.00	37.52
ATOM	548	CG	LEU	83	0.862	27.819	25.981	1.00	37.54
ATOM	549	CD1	LEU	83	1.342	26.260	27.360	1.00	36.95
ATOM	550	CD2	LEU	83	-0.537	28.369	25.696	1.00	36.58
ATOM	551	C	LEU	83	4.009	28.118	26.129	1.00	38.76
ATOM	552	O	LEU	83	4.258	27.252	26.967	1.00	39.02

ATOM	553	N	ALA	84	4.385	29.383	26.265	1.00	39.18
ATOM	554	CA	ALA	84	5.120	29.813	27.445	1.00	40.26
ATOM	555	CB	ALA	84	6.376	30.565	27.037	1.00	40.39
ATOM	556	C	ALA	84	4.256	30.682	28.347	1.00	40.54
ATOM	557	O	ALA	84	3.981	31.837	28.034	1.00	40.58
ATOM	558	N	SER	85	3.832	30.122	29.477	1.00	40.83
ATOM	559	CA	SER	85	2.995	30.872	30.393	1.00	40.42
ATOM	560	CB	SER	85	2.084	29.944	31.207	1.00	39.27
ATOM	561	OG	SER	85	2.701	29.482	32.387	1.00	39.17
ATOM	562	C	SER	85	3.824	31.763	31.302	1.00	41.15
ATOM	563	O	SER	85	4.985	31.478	31.598	1.00	41.03
ATOM	564	N	LYS	86	3.219	32.867	31.721	1.00	41.83
ATOM	565	CA	LYS	86	3.889	33.831	32.582	1.00	42.61
ATOM	566	CB	LYS	86	3.161	35.179	32.549	1.00	42.91
ATOM	567	CG	LYS	86	4.079	36.405	32.586	1.00	43.72
ATOM	568	CD	LYS	86	4.949	36.496	31.320	1.00	44.37
ATOM	569	CE	LYS	86	5.702	37.838	31.197	1.00	43.85
ATOM	570	NZ	LYS	86	6.653	38.119	32.319	1.00	43.40
ATOM	571	C	LYS	86	3.958	33.326	34.012	1.00	42.58
ATOM	572	O	LYS	86	4.888	33.664	34.742	1.00	43.32
ATOM	573	N	SER	87	2.978	32.529	34.423	1.00	42.41
ATOM	574	CA	SER	87	2.990	31.985	35.780	1.00	42.99
ATOM	575	CB	SER	87	1.769	32.459	36.578	1.00	43.28
ATOM	576	OG	SER	87	0.566	32.014	35.988	1.00	45.27
ATOM	577	C	SER	87	3.054	30.459	35.757	1.00	42.54
ATOM	578	O	SER	87	2.723	29.826	34.760	1.00	42.59
ATOM	579	N	VAL	88	3.479	29.876	36.868	1.00	42.19
ATOM	580	CA	VAL	88	3.631	28.431	36.961	1.00	42.00
ATOM	581	CB	VAL	88	4.668	28.057	38.043	1.00	41.45
ATOM	582	CG1	VAL	88	4.908	26.555	38.039	1.00	41.94
ATOM	583	CG2	VAL	88	5.952	28.804	37.802	1.00	40.44
ATOM	584	C	VAL	88	2.346	27.693	37.271	1.00	41.90
ATOM	585	O	VAL	88	1.694	27.967	38.265	1.00	41.91
ATOM	586	N	THR	89	2.001	26.737	36.419	1.00	42.31
ATOM	587	CA	THR	89	0.799	25.929	36.602	1.00	43.07
ATOM	588	CB	THR	89	-0.196	26.129	35.470	1.00	42.64
ATOM	589	OG1	THR	89	0.337	25.540	34.279	1.00	40.99
ATOM	590	CG2	THR	89	-0.460	27.613	35.247	1.00	42.22
ATOM	591	C	THR	89	1.218	24.470	36.551	1.00	43.77
ATOM	592	O	THR	89	2.358	24.165	36.214	1.00	44.96
ATOM	593	N	ASP	90	0.297	23.564	36.856	1.00	43.62
ATOM	594	CA	ASP	90	0.612	22.142	36.836	1.00	43.36
ATOM	595	CB	ASP	90	-0.571	21.337	37.382	1.00	44.19
ATOM	596	CG	ASP	90	-1.848	21.546	36.571	1.00	46.79
ATOM	597	OD1	ASP	90	-1.899	22.500	35.756	1.00	47.51
ATOM	598	OD2	ASP	90	-2.809	20.760	36.758	1.00	48.03
ATOM	599	C	ASP	90	0.975	21.649	35.437	1.00	42.81
ATOM	600	O	ASP	90	1.440	20.521	35.273	1.00	43.66
ATOM	601	N	GLU	91	0.766	22.483	34.424	1.00	41.50
ATOM	602	CA	GLU	91	1.091	22.086	33.054	1.00	40.04
ATOM	603	CB	GLU	91	0.076	22.672	32.069	1.00	39.51
ATOM	604	CG	GLU	91	-1.329	22.109	32.215	1.00	39.37
ATOM	605	CD	GLU	91	-2.313	22.698	31.208	1.00	39.86
ATOM	606	OE1	GLU	91	-2.338	23.935	31.041	1.00	40.41
ATOM	607	OE2	GLU	91	-3.072	21.929	30.590	1.00	39.43
ATOM	608	C	GLU	91	2.496	22.527	32.659	1.00	38.71
ATOM	609	O	GLU	91	2.880	22.438	31.495	1.00	38.40
ATOM	610	N	CYS	92	3.261	22.995	33.638	1.00	36.91
ATOM	611	CA	CYS	92	4.614	23.469	33.384	1.00	35.73
ATOM	612	CB	CYS	92	4.811	24.838	34.036	1.00	35.48
ATOM	613	SG	CYS	92	3.619	26.089	33.511	1.00	33.42
ATOM	614	C	CYS	92	5.693	22.519	33.886	1.00	34.96

ATOM	615	O	CYS	92	6.876	22.863	33.873	1.00	34.46
ATOM	616	N	PHE	93	5.288	21.328	34.323	1.00	34.01
ATOM	617	CA	PHE	93	6.241	20.357	34.847	1.00	33.41
ATOM	618	CB	PHE	93	5.841	19.973	36.274	1.00	33.36
ATOM	619	CG	PHE	93	5.797	21.147	37.217	1.00	33.71
ATOM	620	CD1	PHE	93	6.973	21.800	37.593	1.00	34.28
ATOM	621	CD2	PHE	93	4.582	21.634	37.694	1.00	33.99
ATOM	622	CE1	PHE	93	6.941	22.928	38.431	1.00	33.93
ATOM	623	CE2	PHE	93	4.537	22.757	38.529	1.00	33.44
ATOM	624	CZ	PHE	93	5.720	23.404	38.896	1.00	33.83
ATOM	625	C	PHE	93	6.394	19.122	33.968	1.00	32.60
ATOM	626	O	PHE	93	5.410	18.565	33.470	1.00	32.56
ATOM	627	N	PHE	94	7.644	18.710	33.779	1.00	31.35
ATOM	628	CA	PHE	94	7.956	17.570	32.933	1.00	30.20
ATOM	629	CB	PHE	94	8.574	18.053	31.630	1.00	29.25
ATOM	630	CG	PHE	94	7.761	19.088	30.936	1.00	28.30
ATOM	631	CD1	PHE	94	6.778	18.717	30.020	1.00	27.94
ATOM	632	CD2	PHE	94	7.917	20.432	31.254	1.00	26.64
ATOM	633	CE1	PHE	94	5.961	19.674	29.440	1.00	28.07
ATOM	634	CE2	PHE	94	7.107	21.388	30.683	1.00	26.92
ATOM	635	CZ	PHE	94	6.125	21.014	29.775	1.00	26.80
ATOM	636	C	PHE	94	8.930	16.624	33.585	1.00	30.36
ATOM	637	O	PHE	94	9.768	17.041	34.387	1.00	30.51
ATOM	638	N	PHE	95	8.815	15.344	33.242	1.00	30.11
ATOM	639	CA	PHE	95	9.736	14.345	33.757	1.00	29.83
ATOM	640	CB	PHE	95	9.161	12.933	33.663	1.00	30.35
ATOM	641	CG	PHE	95	7.882	12.735	34.417	1.00	31.10
ATOM	642	CD1	PHE	95	6.679	12.586	33.733	1.00	31.54
ATOM	643	CD2	PHE	95	7.876	12.690	35.807	1.00	30.85
ATOM	644	CE1	PHE	95	5.488	12.394	34.422	1.00	32.11
ATOM	645	CE2	PHE	95	6.692	12.499	36.508	1.00	31.21
ATOM	646	CZ	PHE	95	5.493	12.351	35.815	1.00	31.97
ATOM	647	C	PHE	95	10.933	14.432	32.826	1.00	29.77
ATOM	648	O	PHE	95	10.807	14.231	31.616	1.00	30.05
ATOM	649	N	GLU	96	12.087	14.763	33.384	1.00	29.61
ATOM	650	CA	GLU	96	13.301	14.856	32.599	1.00	29.17
ATOM	651	CB	GLU	96	14.217	15.960	33.131	1.00	28.66
ATOM	652	CG	GLU	96	15.555	16.033	32.401	1.00	28.32
ATOM	653	CD	GLU	96	16.507	17.072	32.972	1.00	28.28
ATOM	654	OE1	GLU	96	16.830	17.003	34.176	1.00	28.47
ATOM	655	OE2	GLU	96	16.949	17.957	32.213	1.00	29.85
ATOM	656	C	GLU	96	14.019	13.524	32.701	1.00	29.36
ATOM	657	O	GLU	96	14.392	13.097	33.791	1.00	29.94
ATOM	658	N	ARG	97	14.211	12.865	31.568	1.00	29.12
ATOM	659	CA	ARG	97	14.899	11.589	31.569	1.00	28.94
ATOM	660	CB	ARG	97	13.942	10.464	31.176	1.00	30.10
ATOM	661	CG	ARG	97	14.557	9.084	31.295	1.00	32.11
ATOM	662	CD	ARG	97	13.709	8.004	30.615	1.00	34.80
ATOM	663	NE	ARG	97	14.268	6.657	30.783	1.00	36.88
ATOM	664	CZ	ARG	97	14.296	5.988	31.939	1.00	38.16
ATOM	665	NH1	ARG	97	13.795	6.528	33.046	1.00	38.69
ATOM	666	NH2	ARG	97	14.829	4.774	31.992	1.00	39.07
ATOM	667	C	ARG	97	16.100	11.551	30.636	1.00	27.85
ATOM	668	O	ARG	97	16.029	11.979	29.489	1.00	27.26
ATOM	669	N	LEU	98	17.209	11.052	31.162	1.00	26.65
ATOM	670	CA	LEU	98	18.417	10.890	30.388	1.00	26.16
ATOM	671	CB	LEU	98	19.662	10.983	31.283	1.00	25.10
ATOM	672	CG	LEU	98	20.922	10.397	30.639	1.00	23.67
ATOM	673	CD1	LEU	98	21.103	10.977	29.239	1.00	22.19
ATOM	674	CD2	LEU	98	22.124	10.663	31.520	1.00	23.41
ATOM	675	C	LEU	98	18.256	9.478	29.837	1.00	26.51
ATOM	676	O	LEU	98	18.473	8.488	30.537	1.00	26.14

ATOM	677	N	GLU	99	17.848	9.393	28.581	1.00	26.80
ATOM	678	CA	GLU	99	17.622	8.115	27.936	1.00	26.82
ATOM	679	CB	GLU	99	16.927	8.348	26.603	1.00	26.24
ATOM	680	CG	GLU	99	15.639	9.147	26.718	1.00	28.42
ATOM	681	CD	GLU	99	14.450	8.315	27.191	1.00	28.95
ATOM	682	OE1	GLU	99	13.337	8.879	27.350	1.00	28.29
ATOM	683	OE2	GLU	99	14.627	7.096	27.399	1.00	30.66
ATOM	684	C	GLU	99	18.915	7.341	27.719	1.00	27.08
ATOM	685	O	GLU	99	20.008	7.902	27.759	1.00	27.12
ATOM	686	N	SER	100	18.775	6.048	27.469	1.00	27.05
ATOM	687	CA	SER	100	19.921	5.192	27.247	1.00	27.22
ATOM	688	CB	SER	100	19.476	3.744	27.150	1.00	28.27
ATOM	689	OG	SER	100	18.748	3.559	25.957	1.00	31.47
ATOM	690	C	SER	100	20.697	5.565	25.993	1.00	26.70
ATOM	691	O	SER	100	21.835	5.147	25.830	1.00	26.34
ATOM	692	N	ASN	101	20.093	6.337	25.096	1.00	26.70
ATOM	693	CA	ASN	101	20.813	6.746	23.886	1.00	25.33
ATOM	694	CB	ASN	101	19.866	6.891	22.709	1.00	25.22
ATOM	695	CG	ASN	101	19.005	8.107	22.826	1.00	26.50
ATOM	696	OD1	ASN	101	18.848	8.668	23.916	1.00	26.62
ATOM	697	ND2	ASN	101	18.426	8.529	21.709	1.00	27.53
ATOM	698	C	ASN	101	21.540	8.071	24.108	1.00	24.54
ATOM	699	O	ASN	101	22.061	8.662	23.175	1.00	24.37
ATOM	700	N	ASN	102	21.566	8.514	25.361	1.00	24.45
ATOM	701	CA	ASN	102	22.213	9.755	25.808	1.00	24.46
ATOM	702	CB	ASN	102	23.698	9.785	25.450	1.00	23.96
ATOM	703	CG	ASN	102	24.512	8.820	26.292	1.00	25.70
ATOM	704	OD1	ASN	102	24.287	8.676	27.493	1.00	26.34
ATOM	705	ND2	ASN	102	25.467	8.151	25.663	1.00	27.30
ATOM	706	C	ASN	102	21.566	11.073	25.432	1.00	24.22
ATOM	707	O	ASN	102	22.197	12.122	25.470	1.00	24.68
ATOM	708	N	TYR	103	20.297	11.018	25.077	1.00	24.01
ATOM	709	CA	TYR	103	19.561	12.229	24.788	1.00	24.03
ATOM	710	CB	TYR	103	18.867	12.112	23.443	1.00	23.95
ATOM	711	CG	TYR	103	19.776	12.339	22.254	1.00	24.32
ATOM	712	CD1	TYR	103	19.956	13.621	21.722	1.00	22.76
ATOM	713	CE1	TYR	103	20.710	13.822	20.584	1.00	23.37
ATOM	714	CD2	TYR	103	20.395	11.262	21.615	1.00	23.85
ATOM	715	CE2	TYR	103	21.158	11.454	20.465	1.00	24.34
ATOM	716	CZ	TYR	103	21.304	12.734	19.956	1.00	24.60
ATOM	717	OH	TYR	103	22.012	12.908	18.794	1.00	27.78
ATOM	718	C	TYR	103	18.539	12.346	25.924	1.00	24.04
ATOM	719	O	TYR	103	18.246	11.367	26.612	1.00	23.70
ATOM	720	N	ASN	104	18.026	13.545	26.149	1.00	24.29
ATOM	721	CA	ASN	104	17.036	13.752	27.192	1.00	24.08
ATOM	722	CB	ASN	104	17.300	15.056	27.923	1.00	24.06
ATOM	723	CG	ASN	104	18.481	14.977	28.858	1.00	24.66
ATOM	724	OD1	ASN	104	19.305	14.056	28.785	1.00	23.53
ATOM	725	ND2	ASN	104	18.580	15.961	29.745	1.00	24.15
ATOM	726	C	ASN	104	15.662	13.828	26.570	1.00	24.42
ATOM	727	O	ASN	104	15.516	14.204	25.410	1.00	24.35
ATOM	728	N	THR	105	14.653	13.438	27.334	1.00	25.04
ATOM	729	CA	THR	105	13.268	13.530	26.887	1.00	25.02
ATOM	730	CB	THR	105	12.552	12.147	26.727	1.00	24.65
ATOM	731	OG1	THR	105	12.721	11.354	27.909	1.00	24.73
ATOM	732	CG2	THR	105	13.069	11.406	25.510	1.00	23.90
ATOM	733	C	THR	105	12.557	14.313	27.973	1.00	25.71
ATOM	734	O	THR	105	13.003	14.350	29.113	1.00	25.75
ATOM	735	N	TYR	106	11.462	14.955	27.613	1.00	26.81
ATOM	736	CA	TYR	106	10.694	15.730	28.570	1.00	27.94
ATOM	737	CB	TYR	106	10.933	17.211	28.330	1.00	27.66
ATOM	738	CG	TYR	106	12.350	17.580	28.653	1.00	27.77

ATOM	739	CD1	TYR	106	12.738	17.805	29.964	1.00	28.19
ATOM	740	CE1	TYR	106	14.058	18.086	30.287	1.00	28.26
ATOM	741	CD2	TYR	106	13.321	17.646	27.656	1.00	28.40
ATOM	742	CE2	TYR	106	14.656	17.927	27.966	1.00	28.15
ATOM	743	CZ	TYR	106	15.015	18.145	29.289	1.00	28.55
ATOM	744	OH	TYR	106	16.330	18.405	29.630	1.00	28.73
ATOM	745	C	TYR	106	9.238	15.365	28.410	1.00	28.19
ATOM	746	O	TYR	106	8.589	15.741	27.442	1.00	27.73
ATOM	747	N	ARG	107	8.741	14.600	29.372	1.00	29.47
ATOM	748	CA	ARG	107	7.372	14.124	29.344	1.00	30.69
ATOM	749	CB	ARG	107	7.379	12.646	29.717	1.00	30.07
ATOM	750	CG	ARG	107	6.085	11.910	29.493	1.00	31.65
ATOM	751	CD	ARG	107	6.338	10.415	29.435	1.00	31.97
ATOM	752	NE	ARG	107	6.993	9.897	30.633	1.00	33.36
ATOM	753	CZ	ARG	107	6.377	9.684	31.794	1.00	34.07
ATOM	754	NH1	ARG	107	5.084	9.946	31.914	1.00	36.13
ATOM	755	NH2	ARG	107	7.048	9.208	32.833	1.00	33.89
ATOM	756	C	ARG	107	6.470	14.932	30.276	1.00	32.10
ATOM	757	O	ARG	107	6.820	15.195	31.425	1.00	32.07
ATOM	758	N	SER	108	5.313	15.340	29.766	1.00	33.50
ATOM	759	CA	SER	108	4.364	16.119	30.553	1.00	34.86
ATOM	760	CB	SER	108	3.127	16.439	29.718	1.00	34.70
ATOM	761	OG	SER	108	2.098	16.990	30.521	1.00	34.38
ATOM	762	C	SER	108	3.933	15.356	31.793	1.00	36.33
ATOM	763	O	SER	108	3.509	14.205	31.698	1.00	36.69
ATOM	764	N	ARG	109	4.039	15.988	32.959	1.00	37.92
ATOM	765	CA	ARG	109	3.623	15.326	34.187	1.00	39.14
ATOM	766	CB	ARG	109	4.149	16.060	35.417	1.00	40.63
ATOM	767	CG	ARG	109	3.465	15.578	36.683	1.00	42.04
ATOM	768	CD	ARG	109	4.342	15.650	37.889	1.00	42.71
ATOM	769	NE	ARG	109	4.553	17.016	38.329	1.00	44.73
ATOM	770	CZ	ARG	109	4.542	17.384	39.606	1.00	46.16
ATOM	771	NH1	ARG	109	4.324	16.466	40.549	1.00	46.18
ATOM	772	NH2	ARG	109	4.763	18.658	39.938	1.00	45.68
ATOM	773	C	ARG	109	2.099	15.275	34.259	1.00	39.59
ATOM	774	O	ARG	109	1.528	14.424	34.944	1.00	39.76
ATOM	775	N	LYS	110	1.449	16.196	33.556	1.00	39.43
ATOM	776	CA	LYS	110	0.003	16.242	33.538	1.00	39.87
ATOM	777	CB	LYS	110	-0.482	17.663	33.272	1.00	41.21
ATOM	778	CG	LYS	110	-1.903	17.902	33.756	1.00	43.57
ATOM	779	CD	LYS	110	-2.204	19.393	33.883	1.00	45.66
ATOM	780	CE	LYS	110	-3.689	19.667	34.144	1.00	46.43
ATOM	781	NZ	LYS	110	-4.196	18.973	35.367	1.00	46.96
ATOM	782	C	LYS	110	-0.530	15.282	32.477	1.00	39.50
ATOM	783	O	LYS	110	-1.397	14.460	32.763	1.00	39.31
ATOM	784	N	TYR	111	0.002	15.381	31.258	1.00	38.61
ATOM	785	CA	TYR	111	-0.391	14.509	30.149	1.00	37.47
ATOM	786	CB	TYR	111	-0.594	15.348	28.903	1.00	36.55
ATOM	787	CG	TYR	111	-1.489	16.520	29.199	1.00	37.11
ATOM	788	CD1	TYR	111	-2.792	16.313	29.657	1.00	36.98
ATOM	789	CE1	TYR	111	-3.602	17.368	30.027	1.00	36.28
ATOM	790	CD2	TYR	111	-1.022	17.832	29.109	1.00	36.58
ATOM	791	CE2	TYR	111	-1.835	18.907	29.479	1.00	36.57
ATOM	792	CZ	TYR	111	-3.127	18.658	29.944	1.00	36.66
ATOM	793	OH	TYR	111	-3.935	19.684	30.380	1.00	36.97
ATOM	794	C	TYR	111	0.736	13.501	29.957	1.00	37.25
ATOM	795	O	TYR	111	1.481	13.542	28.983	1.00	36.98
ATOM	796	N	THR	112	0.822	12.589	30.918	1.00	37.10
ATOM	797	CA	THR	112	1.858	11.570	31.009	1.00	37.05
ATOM	798	CB	THR	112	1.515	10.526	32.099	1.00	36.65
ATOM	799	OG1	THR	112	0.503	9.639	31.618	1.00	35.35
ATOM	800	CG2	THR	112	1.016	11.219	33.361	1.00	36.32

ATOM	801	C	THR	112	2.329	10.806	29.789	1.00	37.20
ATOM	802	O	THR	112	3.344	10.128	29.867	1.00	37.95
ATOM	803	N	SER	113	1.637	10.879	28.664	1.00	37.09
ATOM	804	CA	SER	113	2.149	10.140	27.520	1.00	36.38
ATOM	805	CB	SER	113	1.149	9.081	27.041	1.00	36.67
ATOM	806	OG	SER	113	0.040	9.665	26.400	1.00	38.16
ATOM	807	C	SER	113	2.557	11.049	26.374	1.00	35.98
ATOM	808	O	SER	113	2.828	10.584	25.270	1.00	36.20
ATOM	809	N	TRP	114	2.619	12.347	26.637	1.00	35.33
ATOM	810	CA	TRP	114	3.020	13.283	25.601	1.00	35.24
ATOM	811	CB	TRP	114	1.953	14.364	25.422	1.00	36.67
ATOM	812	CG	TRP	114	0.598	13.828	25.070	1.00	38.36
ATOM	813	CD2	TRP	114	-0.646	14.534	25.142	1.00	39.09
ATOM	814	CE2	TRP	114	-1.650	13.665	24.657	1.00	40.04
ATOM	815	CE3	TRP	114	-1.010	15.817	25.567	1.00	39.40
ATOM	816	CD1	TRP	114	0.306	12.592	24.564	1.00	38.75
ATOM	817	NE1	TRP	114	-1.043	12.486	24.313	1.00	39.11
ATOM	818	CZ2	TRP	114	-2.997	14.043	24.584	1.00	40.56
ATOM	819	CZ3	TRP	114	-2.339	16.191	25.496	1.00	40.33
ATOM	820	CH2	TRP	114	-3.320	15.306	25.007	1.00	40.55
ATOM	821	C	TRP	114	4.377	13.916	25.917	1.00	34.10
ATOM	822	O	TRP	114	4.669	14.245	27.071	1.00	33.96
ATOM	823	N	TYR	115	5.199	14.076	24.883	1.00	32.52
ATOM	824	CA	TYR	115	6.529	14.645	25.032	1.00	30.94
ATOM	825	CB	TYR	115	7.580	13.750	24.385	1.00	30.98
ATOM	826	CG	TYR	115	7.739	12.383	24.977	1.00	30.54
ATOM	827	CD1	TYR	115	6.887	11.347	24.616	1.00	29.82
ATOM	828	CE1	TYR	115	7.071	10.075	25.113	1.00	31.32
ATOM	829	CD2	TYR	115	8.784	12.111	25.862	1.00	30.94
ATOM	830	CE2	TYR	115	8.981	10.838	26.373	1.00	30.96
ATOM	831	CZ	TYR	115	8.123	9.824	25.994	1.00	31.82
ATOM	832	OH	TYR	115	8.313	8.559	26.494	1.00	32.48
ATOM	833	C	TYR	115	6.671	16.000	24.379	1.00	30.22
ATOM	834	O	TYR	115	5.950	16.328	23.433	1.00	30.13
ATOM	835	N	VAL	116	7.623	16.775	24.886	1.00	29.29
ATOM	836	CA	VAL	116	7.936	18.072	24.315	1.00	29.10
ATOM	837	CB	VAL	116	8.899	18.852	25.229	1.00	28.31
ATOM	838	CG1	VAL	116	9.291	20.164	24.578	1.00	26.24
ATOM	839	CG2	VAL	116	8.248	19.066	26.585	1.00	26.68
ATOM	840	C	VAL	116	8.654	17.670	23.030	1.00	29.31
ATOM	841	O	VAL	116	9.476	16.754	23.044	1.00	28.94
ATOM	842	N	ALA	117	8.352	18.333	21.924	1.00	29.95
ATOM	843	CA	ALA	117	8.973	17.948	20.671	1.00	30.87
ATOM	844	CB	ALA	117	8.309	16.673	20.157	1.00	29.42
ATOM	845	C	ALA	117	8.935	19.024	19.598	1.00	32.06
ATOM	846	O	ALA	117	8.065	19.890	19.599	1.00	32.32
ATOM	847	N	LEU	118	9.896	18.956	18.680	1.00	33.64
ATOM	848	CA	LEU	118	9.991	19.904	17.575	1.00	34.88
ATOM	849	CB	LEU	118	11.274	20.720	17.681	1.00	33.49
ATOM	850	CG	LEU	118	11.348	21.637	18.897	1.00	33.25
ATOM	851	CD1	LEU	118	12.694	22.367	18.912	1.00	32.56
ATOM	852	CD2	LEU	118	10.192	22.616	18.852	1.00	32.02
ATOM	853	C	LEU	118	10.000	19.149	16.262	1.00	36.58
ATOM	854	O	LEU	118	10.614	18.091	16.162	1.00	37.96
ATOM	855	N	LYS	119	9.312	19.680	15.258	1.00	38.16
ATOM	856	CA	LYS	119	9.292	19.037	13.954	1.00	39.70
ATOM	857	CB	LYS	119	8.028	19.413	13.184	1.00	40.59
ATOM	858	CG	LYS	119	6.775	18.704	13.671	1.00	41.77
ATOM	859	CD	LYS	119	5.597	18.941	12.729	1.00	42.98
ATOM	860	CE	LYS	119	5.317	20.419	12.596	1.00	44.14
ATOM	861	NZ	LYS	119	5.330	21.051	13.947	1.00	45.69
ATOM	862	C	LYS	119	10.531	19.456	13.168	1.00	40.77

ATOM	863	O	LYS	119	11.270	20.345	13.588	1.00	40.35
ATOM	864	N	ARG	120	10.761	18.810	12.031	1.00	42.75
ATOM	865	CA	ARG	120	11.912	19.136	11.191	1.00	44.60
ATOM	866	CB	ARG	120	12.006	18.189	10.001	1.00	45.88
ATOM	867	CG	ARG	120	12.017	16.729	10.346	1.00	49.02
ATOM	868	CD	ARG	120	11.881	15.904	9.082	1.00	51.03
ATOM	869	NE	ARG	120	11.620	14.498	9.376	1.00	53.84
ATOM	870	CZ	ARG	120	11.224	13.609	8.467	1.00	55.46
ATOM	871	NH1	ARG	120	11.044	13.991	7.205	1.00	56.37
ATOM	872	NH2	ARG	120	10.999	12.343	8.817	1.00	55.68
ATOM	873	C	ARG	120	11.803	20.553	10.640	1.00	44.69
ATOM	874	O	ARG	120	12.772	21.087	10.110	1.00	45.06
ATOM	875	N	THR	121	10.622	21.156	10.746	1.00	44.32
ATOM	876	CA	THR	121	10.414	22.503	10.235	1.00	43.76
ATOM	877	CB	THR	121	8.949	22.754	9.866	1.00	43.55
ATOM	878	OG1	THR	121	8.147	22.731	11.053	1.00	44.11
ATOM	879	CG2	THR	121	8.455	21.697	8.905	1.00	42.91
ATOM	880	C	THR	121	10.803	23.562	11.242	1.00	44.11
ATOM	881	O	THR	121	10.855	24.744	10.915	1.00	44.87
ATOM	882	N	GLY	122	11.074	23.147	12.470	1.00	44.10
ATOM	883	CA	GLY	122	11.431	24.113	13.490	1.00	44.18
ATOM	884	C	GLY	122	10.212	24.511	14.301	1.00	43.87
ATOM	885	O	GLY	122	10.315	25.278	15.258	1.00	44.18
ATOM	886	N	GLN	123	9.050	24.000	13.907	1.00	43.28
ATOM	887	CA	GLN	123	7.805	24.273	14.615	1.00	43.15
ATOM	888	CB	GLN	123	6.612	24.204	13.668	1.00	43.26
ATOM	889	CG	GLN	123	6.719	25.115	12.486	1.00	44.87
ATOM	890	CD	GLN	123	6.914	26.550	12.903	1.00	45.57
ATOM	891	OE1	GLN	123	6.051	27.138	13.553	1.00	44.96
ATOM	892	NE2	GLN	123	8.062	27.124	12.538	1.00	46.77
ATOM	893	C	GLN	123	7.653	23.179	15.654	1.00	42.76
ATOM	894	O	GLN	123	8.057	22.044	15.417	1.00	42.89
ATOM	895	N	TYR	124	7.071	23.499	16.802	1.00	42.02
ATOM	896	CA	TYR	124	6.904	22.475	17.822	1.00	41.12
ATOM	897	CB	TYR	124	6.378	23.079	19.138	1.00	40.07
ATOM	898	CG	TYR	124	4.915	23.471	19.134	1.00	39.30
ATOM	899	CD1	TYR	124	3.915	22.509	19.267	1.00	39.39
ATOM	900	CE1	TYR	124	2.572	22.861	19.235	1.00	38.95
ATOM	901	CD2	TYR	124	4.531	24.804	18.972	1.00	39.13
ATOM	902	CE2	TYR	124	3.190	25.168	18.940	1.00	38.53
ATOM	903	CZ	TYR	124	2.215	24.192	19.068	1.00	38.81
ATOM	904	OH	TYR	124	0.881	24.537	19.008	1.00	38.77
ATOM	905	C	TYR	124	5.939	21.434	17.288	1.00	40.70
ATOM	906	O	TYR	124	5.169	21.703	16.379	1.00	40.39
ATOM	907	N	LYS	125	6.000	20.235	17.844	1.00	40.37
ATOM	908	CA	LYS	125	5.111	19.169	17.423	1.00	40.17
ATOM	909	CB	LYS	125	5.913	17.910	17.081	1.00	38.95
ATOM	910	CG	LYS	125	5.052	16.679	16.900	1.00	37.80
ATOM	911	CD	LYS	125	5.873	15.447	16.623	1.00	37.61
ATOM	912	CE	LYS	125	5.590	14.904	15.237	1.00	37.54
ATOM	913	NZ	LYS	125	6.280	13.601	15.011	1.00	37.60
ATOM	914	C	LYS	125	4.125	18.871	18.552	1.00	40.59
ATOM	915	O	LYS	125	4.519	18.743	19.715	1.00	41.45
ATOM	916	N	LEU	126	2.844	18.778	18.211	1.00	40.35
ATOM	917	CA	LEU	126	1.809	18.482	19.194	1.00	40.00
ATOM	918	CB	LEU	126	0.479	18.198	18.496	1.00	39.01
ATOM	919	CG	LEU	126	-0.234	19.344	17.779	1.00	38.48
ATOM	920	CD1	LEU	126	-1.426	18.771	17.011	1.00	38.03
ATOM	921	CD2	LEU	126	-0.683	20.404	18.784	1.00	36.46
ATOM	922	C	LEU	126	2.172	17.278	20.053	1.00	40.33
ATOM	923	O	LEU	126	2.511	16.212	19.538	1.00	40.56
ATOM	924	N	GLY	127	2.093	17.449	21.366	1.00	40.46

ATOM	925	CA	GLY	127	2.404	16.353	22.264	1.00	40.66
ATOM	926	C	GLY	127	1.529	15.149	21.978	1.00	40.63
ATOM	927	O	GLY	127	1.954	14.009	22.125	1.00	39.82
ATOM	928	N	SER	128	0.298	15.413	21.555	1.00	40.87
ATOM	929	CA	SER	128	-0.651	14.358	21.250	1.00	41.21
ATOM	930	CB	SER	128	-1.991	14.975	20.900	1.00	40.69
ATOM	931	OG	SER	128	-1.812	15.943	19.890	1.00	41.81
ATOM	932	C	SER	128	-0.173	13.501	20.090	1.00	41.64
ATOM	933	O	SER	128	-0.647	12.391	19.890	1.00	40.99
ATOM	934	N	LYS	129	0.772	14.024	19.321	1.00	42.40
ATOM	935	CA	LYS	129	1.295	13.288	18.186	1.00	42.92
ATOM	936	CB	LYS	129	1.267	14.180	16.942	1.00	43.84
ATOM	937	CG	LYS	129	-0.141	14.329	16.387	1.00	45.32
ATOM	938	CD	LYS	129	-0.260	15.387	15.307	1.00	47.16
ATOM	939	CE	LYS	129	-1.710	15.461	14.812	1.00	48.88
ATOM	940	NZ	LYS	129	-1.985	16.588	13.866	1.00	50.31
ATOM	941	C	LYS	129	2.690	12.719	18.426	1.00	42.38
ATOM	942	O	LYS	129	3.289	12.142	17.528	1.00	42.01
ATOM	943	N	THR	130	3.194	12.860	19.649	1.00	42.29
ATOM	944	CA	THR	130	4.523	12.354	19.983	1.00	41.66
ATOM	945	CB	THR	130	5.192	13.176	21.106	1.00	40.68
ATOM	946	OG1	THR	130	4.489	12.962	22.334	1.00	39.45
ATOM	947	CG2	THR	130	5.195	14.662	20.760	1.00	40.36
ATOM	948	C	THR	130	4.479	10.903	20.443	1.00	41.78
ATOM	949	O	THR	130	3.413	10.361	20.724	1.00	41.50
ATOM	950	N	GLY	131	5.655	10.286	20.518	1.00	42.00
ATOM	951	CA	GLY	131	5.758	8.904	20.946	1.00	41.91
ATOM	952	C	GLY	131	7.195	8.581	21.290	1.00	42.14
ATOM	953	O	GLY	131	8.095	9.317	20.895	1.00	42.22
ATOM	954	N	PRO	132	7.446	7.474	22.007	1.00	42.30
ATOM	955	CD	PRO	132	6.418	6.505	22.417	1.00	41.79
ATOM	956	CA	PRO	132	8.773	7.015	22.433	1.00	42.12
ATOM	957	CB	PRO	132	8.472	5.689	23.133	1.00	41.91
ATOM	958	CG	PRO	132	7.076	5.843	23.593	1.00	42.30
ATOM	959	C	PRO	132	9.775	6.813	21.300	1.00	42.01
ATOM	960	O	PRO	132	10.964	7.125	21.433	1.00	43.09
ATOM	961	N	GLY	133	9.296	6.273	20.188	1.00	41.52
ATOM	962	CA	GLY	133	10.188	6.016	19.074	1.00	41.10
ATOM	963	C	GLY	133	10.383	7.152	18.093	1.00	40.19
ATOM	964	O	GLY	133	10.687	6.910	16.931	1.00	40.19
ATOM	965	N	GLN	134	10.227	8.391	18.544	1.00	39.31
ATOM	966	CA	GLN	134	10.400	9.518	17.641	1.00	38.15
ATOM	967	CB	GLN	134	9.198	10.446	17.702	1.00	37.90
ATOM	968	CG	GLN	134	7.906	9.770	17.364	1.00	37.73
ATOM	969	CD	GLN	134	6.746	10.728	17.356	1.00	37.43
ATOM	970	OE1	GLN	134	5.592	10.318	17.272	1.00	37.42
ATOM	971	NE2	GLN	134	7.044	12.016	17.435	1.00	37.10
ATOM	972	C	GLN	134	11.654	10.323	17.910	1.00	37.85
ATOM	973	O	GLN	134	12.078	10.497	19.052	1.00	38.47
ATOM	974	N	LYS	135	12.236	10.822	16.833	1.00	36.65
ATOM	975	CA	LYS	135	13.443	11.623	16.883	1.00	35.45
ATOM	976	CB	LYS	135	14.025	11.660	15.475	1.00	35.04
ATOM	977	CG	LYS	135	15.316	12.391	15.261	1.00	36.23
ATOM	978	CD	LYS	135	15.762	12.093	13.822	1.00	36.68
ATOM	979	CE	LYS	135	16.943	12.925	13.375	1.00	37.17
ATOM	980	NZ	LYS	135	17.400	12.513	12.026	1.00	37.53
ATOM	981	C	LYS	135	13.126	13.031	17.388	1.00	34.80
ATOM	982	O	LYS	135	13.989	13.722	17.929	1.00	35.38
ATOM	983	N	ALA	136	11.868	13.435	17.235	1.00	33.78
ATOM	984	CA	ALA	136	11.413	14.764	17.631	1.00	32.23
ATOM	985	CB	ALA	136	10.042	15.022	17.051	1.00	31.71
ATOM	986	C	ALA	136	11.385	15.041	19.126	1.00	31.58

ATOM	987	O	ALA	136	11.396	16.198	19.538	1.00	31.40
ATOM	988	N	ILE	137	11.359	13.988	19.935	1.00	30.43
ATOM	989	CA	ILE	137	11.299	14.136	21.383	1.00	29.08
ATOM	990	CB	ILE	137	10.505	12.971	22.010	1.00	28.62
ATOM	991	CG2	ILE	137	9.097	12.878	21.396	1.00	27.72
ATOM	992	CG1	ILE	137	11.263	11.660	21.786	1.00	27.64
ATOM	993	CD1	ILE	137	10.712	10.490	22.574	1.00	26.85
ATOM	994	C	ILE	137	12.663	14.167	22.063	1.00	29.05
ATOM	995	O	ILE	137	12.760	14.447	23.255	1.00	29.51
ATOM	996	N	LEU	138	13.714	13.884	21.306	1.00	28.48
ATOM	997	CA	LEU	138	15.067	13.822	21.855	1.00	27.74
ATOM	998	CB	LEU	138	15.866	12.767	21.081	1.00	25.88
ATOM	999	CG	LEU	138	15.234	11.370	21.120	1.00	23.44
ATOM	1000	CD1	LEU	138	15.866	10.470	20.079	1.00	23.09
ATOM	1001	CD2	LEU	138	15.406	10.782	22.512	1.00	21.50
ATOM	1002	C	LEU	138	15.822	15.143	21.871	1.00	27.94
ATOM	1003	O	LEU	138	15.954	15.810	20.849	1.00	29.08
ATOM	1004	N	PHE	139	16.327	15.516	23.038	1.00	27.46
ATOM	1005	CA	PHE	139	17.058	16.765	23.158	1.00	27.29
ATOM	1006	CB	PHE	139	16.253	17.778	23.973	1.00	26.26
ATOM	1007	CG	PHE	139	14.982	18.221	23.313	1.00	24.21
ATOM	1008	CD1	PHE	139	13.839	17.441	23.387	1.00	23.67
ATOM	1009	CD2	PHE	139	14.922	19.441	22.644	1.00	23.89
ATOM	1010	CE1	PHE	139	12.650	17.871	22.810	1.00	23.55
ATOM	1011	CE2	PHE	139	13.741	19.884	22.062	1.00	23.26
ATOM	1012	CZ	PHE	139	12.602	19.100	22.146	1.00	23.71
ATOM	1013	C	PHE	139	18.411	16.588	23.805	1.00	27.66
ATOM	1014	O	PHE	139	18.578	15.796	24.720	1.00	27.66
ATOM	1015	N	LEU	140	19.380	17.345	23.320	1.00	28.50
ATOM	1016	CA	LEU	140	20.718	17.291	23.864	1.00	29.25
ATOM	1017	CB	LEU	140	21.738	17.164	22.739	1.00	27.95
ATOM	1018	CG	LEU	140	23.173	16.905	23.167	1.00	27.42
ATOM	1019	CD1	LEU	140	23.232	15.557	23.885	1.00	27.33
ATOM	1020	CD2	LEU	140	24.112	16.930	21.989	1.00	27.78
ATOM	1021	C	LEU	140	20.960	18.584	24.628	1.00	30.43
ATOM	1022	O	LEU	140	21.002	19.662	24.036	1.00	31.10
ATOM	1023	N	PRO	141	21.080	18.505	25.959	1.00	30.89
ATOM	1024	CD	PRO	141	20.724	17.391	26.850	1.00	30.79
ATOM	1025	CA	PRO	141	21.324	19.725	26.725	1.00	32.44
ATOM	1026	CB	PRO	141	21.023	19.305	28.166	1.00	31.35
ATOM	1027	CG	PRO	141	21.308	17.839	28.164	1.00	31.22
ATOM	1028	C	PRO	141	22.747	20.230	26.536	1.00	34.14
ATOM	1029	O	PRO	141	23.707	19.464	26.572	1.00	34.05
ATOM	1030	N	MET	142	22.872	21.529	26.320	1.00	36.45
ATOM	1031	CA	MET	142	24.166	22.148	26.110	1.00	38.91
ATOM	1032	CB	MET	142	24.315	22.519	24.640	1.00	37.58
ATOM	1033	CG	MET	142	24.203	21.341	23.701	1.00	36.89
ATOM	1034	SD	MET	142	24.345	21.837	21.984	1.00	37.07
ATOM	1035	CE	MET	142	26.022	22.298	21.902	1.00	37.42
ATOM	1036	C	MET	142	24.244	23.395	26.964	1.00	41.41
ATOM	1037	O	MET	142	23.239	24.079	27.152	1.00	41.83
ATOM	1038	N	SER	143	25.426	23.696	27.487	1.00	44.37
ATOM	1039	CA	SER	143	25.576	24.883	28.313	1.00	47.76
ATOM	1040	CB	SER	143	26.992	24.980	28.876	1.00	48.30
ATOM	1041	OG	SER	143	27.921	25.277	27.848	1.00	49.63
ATOM	1042	C	SER	143	25.282	26.106	27.457	1.00	49.81
ATOM	1043	O	SER	143	25.415	26.071	26.228	1.00	50.18
ATOM	1044	N	ALA	144	24.866	27.184	28.105	1.00	52.23
ATOM	1045	CA	ALA	144	24.557	28.406	27.387	1.00	55.05
ATOM	1046	CB	ALA	144	23.208	28.947	27.821	1.00	54.70
ATOM	1047	C	ALA	144	25.637	29.433	27.663	1.00	57.35
ATOM	1048	O	ALA	144	25.737	29.956	28.780	1.00	58.14

ATOM	1049	N	LYS	145	26.447	29.719	26.646	1.00	59.20
ATOM	1050	CA	LYS	145	27.511	30.705	26.772	1.00	60.85
ATOM	1051	CB	LYS	145	28.786	30.058	27.335	1.00	61.42
ATOM	1052	CG	LYS	145	28.596	29.428	28.718	1.00	62.32
ATOM	1053	CD	LYS	145	29.701	29.806	29.691	1.00	62.53
ATOM	1054	CE	LYS	145	29.391	29.263	31.078	1.00	63.58
ATOM	1055	NZ	LYS	145	30.384	29.679	32.118	1.00	64.35
ATOM	1056	C	LYS	145	27.780	31.309	25.401	1.00	61.86
ATOM	1057	O	LYS	145	27.822	32.535	25.247	1.00	62.09
ATOM	1058	N	ALA	146	27.942	30.445	24.401	1.00	62.32
ATOM	1059	CA	ALA	146	28.205	30.902	23.044	1.00	62.92
ATOM	1060	CB	ALA	146	29.371	30.123	22.453	1.00	62.85
ATOM	1061	C	ALA	146	26.969	30.758	22.158	1.00	63.51
ATOM	1062	O	ALA	146	26.349	31.806	21.859	1.00	63.75
ATOM	1063	CB	HIS	1016	35.195	-13.780	34.624	1.00	50.24
ATOM	1064	CG	HIS	1016	36.186	-13.875	35.736	1.00	52.02
ATOM	1065	CD2	HIS	1016	36.027	-14.140	37.054	1.00	52.96
ATOM	1066	ND1	HIS	1016	37.539	-13.702	35.540	1.00	53.04
ATOM	1067	CE1	HIS	1016	38.172	-13.857	36.691	1.00	53.67
ATOM	1068	NE2	HIS	1016	37.277	-14.124	37.626	1.00	53.72
ATOM	1069	C	HIS	1016	36.657	-12.614	32.965	1.00	47.80
ATOM	1070	O	HIS	1016	36.809	-13.475	32.089	1.00	46.82
ATOM	1071	N	HIS	1016	34.177	-12.360	32.863	1.00	48.65
ATOM	1072	CA	HIS	1016	35.356	-12.525	33.770	1.00	48.80
ATOM	1073	N	PHE	1017	37.594	-11.723	33.286	1.00	46.61
ATOM	1074	CA	PHE	1017	38.873	-11.638	32.591	1.00	46.23
ATOM	1075	CB	PHE	1017	39.765	-10.581	33.262	1.00	46.95
ATOM	1076	CG	PHE	1017	40.338	-11.019	34.573	1.00	47.43
ATOM	1077	CD1	PHE	1017	41.509	-11.770	34.617	1.00	48.33
ATOM	1078	CD2	PHE	1017	39.694	-10.717	35.760	1.00	47.37
ATOM	1079	CE1	PHE	1017	42.030	-12.218	35.828	1.00	48.64
ATOM	1080	CE2	PHE	1017	40.205	-11.158	36.977	1.00	48.23
ATOM	1081	CZ	PHE	1017	41.374	-11.910	37.010	1.00	48.95
ATOM	1082	C	PHE	1017	39.616	-12.978	32.470	1.00	45.73
ATOM	1083	O	PHE	1017	40.361	-13.183	31.509	1.00	45.94
ATOM	1084	N	LYS	1018	39.409	-13.889	33.423	1.00	44.76
ATOM	1085	CA	LYS	1018	40.072	-15.197	33.385	1.00	44.28
ATOM	1086	CB	LYS	1018	39.821	-15.964	34.691	1.00	43.48
ATOM	1087	C	LYS	1018	39.620	-16.062	32.195	1.00	44.31
ATOM	1088	O	LYS	1018	40.428	-16.792	31.610	1.00	44.33
ATOM	1089	N	ASP	1019	38.335	-15.972	31.843	1.00	43.68
ATOM	1090	CA	ASP	1019	37.775	-16.751	30.743	1.00	42.46
ATOM	1091	CB	ASP	1019	36.260	-16.563	30.652	1.00	44.06
ATOM	1092	CG	ASP	1019	35.526	-17.094	31.869	1.00	45.48
ATOM	1093	OD1	ASP	1019	35.862	-18.213	32.333	1.00	46.23
ATOM	1094	OD2	ASP	1019	34.600	-16.394	32.348	1.00	46.31
ATOM	1095	C	ASP	1019	38.377	-16.407	29.393	1.00	41.43
ATOM	1096	O	ASP	1019	38.993	-15.357	29.220	1.00	41.52
ATOM	1097	N	PRO	1020	38.205	-17.306	28.414	1.00	40.39
ATOM	1098	CD	PRO	1020	37.701	-18.680	28.566	1.00	40.94
ATOM	1099	CA	PRO	1020	38.723	-17.110	27.062	1.00	39.43
ATOM	1100	CB	PRO	1020	38.590	-18.495	26.427	1.00	39.90
ATOM	1101	CG	PRO	1020	38.567	-19.421	27.595	1.00	40.54
ATOM	1102	C	PRO	1020	37.839	-16.097	26.366	1.00	38.51
ATOM	1103	O	PRO	1020	36.695	-15.889	26.763	1.00	38.04
ATOM	1104	N	LYS	1021	38.362	-15.480	25.320	1.00	37.52
ATOM	1105	CA	LYS	1021	37.596	-14.493	24.595	1.00	37.31
ATOM	1106	CB	LYS	1021	38.062	-13.090	24.985	1.00	37.95
ATOM	1107	CG	LYS	1021	37.948	-12.791	26.463	1.00	39.55
ATOM	1108	CD	LYS	1021	38.526	-11.420	26.815	1.00	40.62
ATOM	1109	CE	LYS	1021	38.135	-11.023	28.242	1.00	41.41
ATOM	1110	NZ	LYS	1021	38.672	-9.689	28.653	1.00	42.03

ATOM	1111	C	LYS	1021	37.764	-14.672	23.100	1.00	36.82
ATOM	1112	O	LYS	1021	38.705	-15.313	22.649	1.00	36.62
ATOM	1113	N	ARG	1022	36.829	-14.111	22.338	1.00	36.29
ATOM	1114	CA	ARG	1022	36.894	-14.145	20.890	1.00	35.27
ATOM	1115	CB	ARG	1022	35.555	-14.575	20.291	1.00	36.88
ATOM	1116	CG	ARG	1022	35.203	-16.040	20.495	1.00	39.93
ATOM	1117	CD	ARG	1022	34.007	-16.421	19.647	1.00	42.65
ATOM	1118	NE	ARG	1022	32.783	-16.644	20.419	1.00	45.95
ATOM	1119	CZ	ARG	1022	32.443	-17.805	20.977	1.00	47.03
ATOM	1120	NH1	ARG	1022	33.237	-18.867	20.856	1.00	47.13
ATOM	1121	NH2	ARG	1022	31.295	-17.909	21.641	1.00	47.38
ATOM	1122	C	ARG	1022	37.173	-12.702	20.509	1.00	34.79
ATOM	1123	O	ARG	1022	36.624	-11.787	21.120	1.00	35.24
ATOM	1124	N	LEU	1023	38.041	-12.483	19.531	1.00	33.72
ATOM	1125	CA	LEU	1023	38.329	-11.131	19.092	1.00	32.57
ATOM	1126	CB	LEU	1023	39.836	-10.898	19.025	1.00	32.72
ATOM	1127	CG	LEU	1023	40.550	-10.641	20.362	1.00	33.54
ATOM	1128	CD1	LEU	1023	42.045	-10.526	20.128	1.00	33.26
ATOM	1129	CD2	LEU	1023	40.036	-9.354	21.006	1.00	33.55
ATOM	1130	C	LEU	1023	37.675	-10.903	17.729	1.00	32.72
ATOM	1131	O	LEU	1023	38.129	-11.411	16.703	1.00	33.04
ATOM	1132	N	TYR	1024	36.581	-10.149	17.743	1.00	32.24
ATOM	1133	CA	TYR	1024	35.814	-9.825	16.547	1.00	31.22
ATOM	1134	CB	TYR	1024	34.357	-9.629	16.952	1.00	30.87
ATOM	1135	CG	TYR	1024	33.393	-9.182	15.870	1.00	30.66
ATOM	1136	CD1	TYR	1024	33.291	-7.838	15.499	1.00	30.06
ATOM	1137	CE1	TYR	1024	32.321	-7.415	14.583	1.00	29.62
ATOM	1138	CD2	TYR	1024	32.511	-10.095	15.287	1.00	30.22
ATOM	1139	CE2	TYR	1024	31.548	-9.686	14.373	1.00	30.21
ATOM	1140	CZ	TYR	1024	31.451	-8.350	14.027	1.00	30.30
ATOM	1141	OH	TYR	1024	30.467	-7.975	13.139	1.00	29.32
ATOM	1142	C	TYR	1024	36.368	-8.559	15.921	1.00	32.03
ATOM	1143	O	TYR	1024	36.392	-7.487	16.535	1.00	32.58
ATOM	1144	N	CYS	1025	36.883	-8.683	14.696	1.00	32.09
ATOM	1145	CA	CYS	1025	37.470	-7.544	14.005	1.00	32.66
ATOM	1146	CB	CYS	1025	38.417	-8.006	12.902	1.00	32.69
ATOM	1147	SG	CYS	1025	39.333	-6.623	12.164	1.00	33.72
ATOM	1148	C	CYS	1025	36.401	-6.657	13.394	1.00	33.09
ATOM	1149	O	CYS	1025	35.480	-7.144	12.743	1.00	33.19
ATOM	1150	N	LYS	1026	36.531	-5.350	13.599	1.00	33.39
ATOM	1151	CA	LYS	1026	35.556	-4.410	13.066	1.00	33.88
ATOM	1152	CB	LYS	1026	35.837	-2.996	13.575	1.00	32.94
ATOM	1153	CG	LYS	1026	34.803	-1.988	13.131	1.00	32.23
ATOM	1154	CD	LYS	1026	35.167	-0.593	13.576	1.00	33.49
ATOM	1155	CE	LYS	1026	34.224	0.439	12.961	1.00	34.51
ATOM	1156	NZ	LYS	1026	34.556	1.836	13.386	1.00	34.04
ATOM	1157	C	LYS	1026	35.581	-4.415	11.545	1.00	34.99
ATOM	1158	O	LYS	1026	34.585	-4.101	10.890	1.00	35.16
ATOM	1159	N	ASN	1027	36.722	-4.794	10.986	1.00	36.46
ATOM	1160	CA	ASN	1027	36.892	-4.819	9.533	1.00	37.34
ATOM	1161	CB	ASN	1027	38.373	-4.627	9.194	1.00	38.46
ATOM	1162	CG	ASN	1027	38.617	-4.451	7.708	1.00	39.76
ATOM	1163	OD1	ASN	1027	37.787	-3.883	6.996	1.00	40.53
ATOM	1164	ND2	ASN	1027	39.770	-4.918	7.234	1.00	39.60
ATOM	1165	C	ASN	1027	36.366	-6.094	8.872	1.00	37.34
ATOM	1166	O	ASN	1027	37.134	-7.002	8.559	1.00	37.52
ATOM	1167	N	GLY	1028	35.054	-6.160	8.670	1.00	37.05
ATOM	1168	CA	GLY	1028	34.472	-7.328	8.039	1.00	37.13
ATOM	1169	C	GLY	1028	33.801	-8.297	8.996	1.00	37.68
ATOM	1170	O	GLY	1028	33.064	-9.183	8.560	1.00	38.83
ATOM	1171	N	GLY	1029	34.053	-8.148	10.292	1.00	36.79
ATOM	1172	CA	GLY	1029	33.435	-9.038	11.256	1.00	36.22

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ATOM   1173  C   GLY  1029      34.072 -10.410  11.348  1.00 36.20
ATOM   1174  O   GLY  1029      33.397 -11.394  11.643  1.00 36.97
ATOM   1175  N   PHE  1030      35.373 -10.485  11.092  1.00 36.36
ATOM   1176  CA  PHE  1030      36.091 -11.755  11.173  1.00 36.31
ATOM   1177  CB  PHE  1030      37.210 -11.828  10.131  1.00 37.31
ATOM   1178  CG  PHE  1030      36.732 -11.771   8.711  1.00 38.62
ATOM   1179  CD1 PHE  1030      36.850 -10.598   7.971  1.00 39.50
ATOM   1180  CD2 PHE  1030      36.174 -12.893   8.108  1.00 39.20
ATOM   1181  CE1 PHE  1030      36.418 -10.542   6.642  1.00 40.39
ATOM   1182  CE2 PHE  1030      35.739 -12.850   6.786  1.00 39.85
ATOM   1183  CZ  PHE  1030      35.862 -11.672   6.049  1.00 39.97
ATOM   1184  C   PHE  1030      36.722 -11.925  12.548  1.00 36.02
ATOM   1185  O   PHE  1030      37.332 -10.985  13.068  1.00 35.58
ATOM   1186  N   PHE  1031      36.575 -13.120  13.125  1.00 35.55
ATOM   1187  CA  PHE  1031      37.164 -13.428  14.427  1.00 35.33
ATOM   1188  CB  PHE  1031      36.429 -14.582  15.111  1.00 34.97
ATOM   1189  CG  PHE  1031      35.061 -14.216  15.624  1.00 36.46
ATOM   1190  CD1 PHE  1031      34.918 -13.387  16.732  1.00 36.87
ATOM   1191  CD2 PHE  1031      33.914 -14.691  14.992  1.00 36.43
ATOM   1192  CE1 PHE  1031      33.657 -13.033  17.204  1.00 36.47
ATOM   1193  CE2 PHE  1031      32.652 -14.346  15.455  1.00 36.37
ATOM   1194  CZ  PHE  1031      32.524 -13.514  16.565  1.00 37.39
ATOM   1195  C   PHE  1031      38.617 -13.828  14.214  1.00 35.67
ATOM   1196  O   PHE  1031      38.934 -14.541  13.268  1.00 36.04
ATOM   1197  N   LEU  1032      39.505 -13.357  15.081  1.00 35.91
ATOM   1198  CA  LEU  1032      40.910 -13.710  14.956  1.00 36.29
ATOM   1199  CB  LEU  1032      41.748 -12.939  15.973  1.00 36.22
ATOM   1200  CG  LEU  1032      43.270 -13.086  15.859  1.00 36.44
ATOM   1201  CD1 LEU  1032      43.746 -12.542  14.506  1.00 35.45
ATOM   1202  CD2 LEU  1032      43.942 -12.325  17.008  1.00 35.42
ATOM   1203  C   LEU  1032      41.028 -15.211  15.215  1.00 37.32
ATOM   1204  O   LEU  1032      40.528 -15.721  16.228  1.00 37.07
ATOM   1205  N   ARG  1033      41.684 -15.919  14.296  1.00 38.42
ATOM   1206  CA  ARG  1033      41.830 -17.363  14.433  1.00 39.17
ATOM   1207  CB  ARG  1033      41.026 -18.084  13.353  1.00 40.39
ATOM   1208  CG  ARG  1033      41.089 -19.600  13.477  1.00 41.83
ATOM   1209  CD  ARG  1033      40.165 -20.282  12.479  1.00 41.78
ATOM   1210  NE  ARG  1033      40.487 -19.904  11.105  1.00 41.08
ATOM   1211  CZ  ARG  1033      39.854 -20.376  10.038  1.00 40.78
ATOM   1212  NH1 ARG  1033      38.865 -21.248  10.181  1.00 40.23
ATOM   1213  NH2 ARG  1033      40.203 -19.965   8.827  1.00 40.75
ATOM   1214  C   ARG  1033      43.262 -17.856  14.403  1.00 39.62
ATOM   1215  O   ARG  1033      44.044 -17.486  13.526  1.00 39.14
ATOM   1216  N   ILE  1034      43.585 -18.694  15.386  1.00 40.82
ATOM   1217  CA  ILE  1034      44.909 -19.289  15.528  1.00 42.03
ATOM   1218  CB  ILE  1034      45.430 -19.156  16.973  1.00 42.56
ATOM   1219  CG2 ILE  1034      46.857 -19.674  17.054  1.00 43.23
ATOM   1220  CG1 ILE  1034      45.385 -17.698  17.426  1.00 42.52
ATOM   1221  CD1 ILE  1034      46.315 -16.793  16.667  1.00 43.24
ATOM   1222  C   ILE  1034      44.784 -20.783  15.211  1.00 43.26
ATOM   1223  O   ILE  1034      44.193 -21.547  15.986  1.00 42.66
ATOM   1224  N   HIS  1035      45.329 -21.190  14.066  1.00 44.90
ATOM   1225  CA  HIS  1035      45.283 -22.592  13.634  1.00 46.39
ATOM   1226  CB  HIS  1035      45.587 -22.721  12.133  1.00 47.94
ATOM   1227  CG  HIS  1035      44.485 -22.245  11.237  1.00 49.89
ATOM   1228  CD2 HIS  1035      44.422 -21.196  10.381  1.00 50.45
ATOM   1229  ND1 HIS  1035      43.272 -22.894  11.138  1.00 50.82
ATOM   1230  CE1 HIS  1035      42.510 -22.265  10.259  1.00 51.27
ATOM   1231  NE2 HIS  1035      43.184 -21.231   9.785  1.00 50.87
ATOM   1232  C   HIS  1035      46.304 -23.438  14.374  1.00 46.48
ATOM   1233  O   HIS  1035      47.392 -22.963  14.704  1.00 46.12
ATOM   1234  N   PRO  1036      45.969 -24.714  14.621  1.00 47.37
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ATOM	1235	CD	PRO	1036	44.692	-25.373	14.280	1.00	47.36
ATOM	1236	CA	PRO	1036	46.867	-25.640	15.323	1.00	47.64
ATOM	1237	CB	PRO	1036	46.126	-26.968	15.234	1.00	47.39
ATOM	1238	CG	PRO	1036	44.678	-26.543	15.227	1.00	47.88
ATOM	1239	C	PRO	1036	48.252	-25.709	14.671	1.00	48.25
ATOM	1240	O	PRO	1036	49.258	-25.917	15.353	1.00	47.81
ATOM	1241	N	ASP	1037	48.304	-25.517	13.358	1.00	49.15
ATOM	1242	CA	ASP	1037	49.573	-25.582	12.653	1.00	50.93
ATOM	1243	CB	ASP	1037	49.343	-26.090	11.229	1.00	52.26
ATOM	1244	CG	ASP	1037	48.621	-25.085	10.361	1.00	53.34
ATOM	1245	OD1	ASP	1037	49.302	-24.210	9.790	1.00	53.24
ATOM	1246	OD2	ASP	1037	47.378	-25.167	10.257	1.00	53.76
ATOM	1247	C	ASP	1037	50.358	-24.262	12.629	1.00	51.64
ATOM	1248	O	ASP	1037	51.391	-24.167	11.965	1.00	51.98
ATOM	1249	N	GLY	1038	49.875	-23.250	13.350	1.00	51.85
ATOM	1250	CA	GLY	1038	50.575	-21.973	13.388	1.00	51.09
ATOM	1251	C	GLY	1038	50.070	-20.895	12.439	1.00	51.25
ATOM	1252	O	GLY	1038	50.611	-19.783	12.415	1.00	51.55
ATOM	1253	N	ARG	1039	49.044	-21.207	11.651	1.00	50.66
ATOM	1254	CA	ARG	1039	48.492	-20.226	10.721	1.00	50.17
ATOM	1255	CB	ARG	1039	47.801	-20.924	9.544	1.00	51.11
ATOM	1256	CG	ARG	1039	48.743	-21.626	8.577	1.00	52.29
ATOM	1257	CD	ARG	1039	47.991	-22.197	7.380	1.00	53.18
ATOM	1258	NE	ARG	1039	47.064	-23.264	7.751	1.00	55.18
ATOM	1259	CZ	ARG	1039	45.746	-23.214	7.558	1.00	55.90
ATOM	1260	NH1	ARG	1039	44.976	-24.236	7.926	1.00	55.99
ATOM	1261	NH2	ARG	1039	45.198	-22.140	6.999	1.00	55.48
ATOM	1262	C	ARG	1039	47.489	-19.307	11.426	1.00	49.33
ATOM	1263	O	ARG	1039	46.669	-19.765	12.228	1.00	48.82
ATOM	1264	N	VAL	1040	47.566	-18.011	11.136	1.00	48.09
ATOM	1265	CA	VAL	1040	46.640	-17.055	11.724	1.00	46.86
ATOM	1266	CB	VAL	1040	47.358	-16.051	12.673	1.00	47.67
ATOM	1267	CG1	VAL	1040	48.477	-15.321	11.944	1.00	47.65
ATOM	1268	CG2	VAL	1040	46.350	-15.056	13.218	1.00	46.87
ATOM	1269	C	VAL	1040	45.865	-16.299	10.642	1.00	46.15
ATOM	1270	O	VAL	1040	46.447	-15.753	9.696	1.00	45.30
ATOM	1271	N	ASP	1041	44.544	-16.290	10.793	1.00	45.06
ATOM	1272	CA	ASP	1041	43.655	-15.624	9.852	1.00	44.54
ATOM	1273	CB	ASP	1041	43.388	-16.550	8.656	1.00	44.79
ATOM	1274	CG	ASP	1041	42.527	-17.768	9.021	1.00	44.82
ATOM	1275	OD1	ASP	1041	42.206	-18.562	8.111	1.00	44.40
ATOM	1276	OD2	ASP	1041	42.168	-17.932	10.209	1.00	44.71
ATOM	1277	C	ASP	1041	42.334	-15.294	10.558	1.00	44.15
ATOM	1278	O	ASP	1041	42.247	-15.347	11.786	1.00	43.82
ATOM	1279	N	GLY	1042	41.306	-14.973	9.781	1.00	43.43
ATOM	1280	CA	GLY	1042	40.023	-14.663	10.378	1.00	43.49
ATOM	1281	C	GLY	1042	38.880	-15.449	9.772	1.00	43.28
ATOM	1282	O	GLY	1042	38.967	-15.894	8.635	1.00	43.80
ATOM	1283	N	VAL	1043	37.814	-15.634	10.541	1.00	43.15
ATOM	1284	CA	VAL	1043	36.625	-16.342	10.075	1.00	43.45
ATOM	1285	CB	VAL	1043	36.593	-17.831	10.481	1.00	43.62
ATOM	1286	CG1	VAL	1043	37.418	-18.651	9.524	1.00	43.54
ATOM	1287	CG2	VAL	1043	37.073	-17.990	11.916	1.00	43.37
ATOM	1288	C	VAL	1043	35.429	-15.708	10.720	1.00	43.54
ATOM	1289	O	VAL	1043	35.532	-15.146	11.805	1.00	44.05
ATOM	1290	N	ARG	1044	34.281	-15.823	10.072	1.00	43.96
ATOM	1291	CA	ARG	1044	33.071	-15.235	10.619	1.00	44.60
ATOM	1292	CB	ARG	1044	32.193	-14.678	9.496	1.00	44.49
ATOM	1293	CG	ARG	1044	32.848	-13.546	8.742	1.00	44.72
ATOM	1294	CD	ARG	1044	31.915	-12.976	7.707	1.00	44.98
ATOM	1295	NE	ARG	1044	32.536	-11.873	6.989	1.00	45.86
ATOM	1296	CZ	ARG	1044	31.984	-11.269	5.947	1.00	46.63

ATOM	1297	NH1	ARG	1044	30.802	-11.673	5.512	1.00	47.95
ATOM	1298	NH2	ARG	1044	32.604	-10.264	5.341	1.00	46.65
ATOM	1299	C	ARG	1044	32.266	-16.200	11.471	1.00	45.06
ATOM	1300	O	ARG	1044	31.508	-15.770	12.335	1.00	45.16
ATOM	1301	N	GLU	1045	32.427	-17.500	11.243	1.00	46.33
ATOM	1302	CA	GLU	1045	31.677	-18.488	12.014	1.00	47.49
ATOM	1303	CB	GLU	1045	31.884	-19.888	11.436	1.00	48.72
ATOM	1304	CG	GLU	1045	31.239	-20.994	12.270	1.00	51.53
ATOM	1305	CD	GLU	1045	29.766	-20.726	12.574	1.00	53.14
ATOM	1306	OE1	GLU	1045	28.969	-20.609	11.613	1.00	54.44
ATOM	1307	OE2	GLU	1045	29.402	-20.631	13.772	1.00	53.22
ATOM	1308	C	GLU	1045	32.055	-18.478	13.489	1.00	47.67
ATOM	1309	O	GLU	1045	33.147	-18.899	13.865	1.00	47.68
ATOM	1310	N	LYS	1046	31.129	-18.009	14.318	1.00	48.39
ATOM	1311	CA	LYS	1046	31.327	-17.911	15.764	1.00	49.33
ATOM	1312	CB	LYS	1046	30.084	-17.273	16.405	1.00	50.47
ATOM	1313	CG	LYS	1046	30.281	-16.763	17.833	1.00	52.53
ATOM	1314	CD	LYS	1046	29.060	-15.968	18.317	1.00	53.87
ATOM	1315	CE	LYS	1046	29.321	-15.271	19.665	1.00	54.84
ATOM	1316	NZ	LYS	1046	28.246	-14.274	20.023	1.00	54.95
ATOM	1317	C	LYS	1046	31.623	-19.250	16.443	1.00	49.41
ATOM	1318	O	LYS	1046	32.220	-19.287	17.526	1.00	49.48
ATOM	1319	N	SER	1047	31.219	-20.347	15.807	1.00	49.69
ATOM	1320	CA	SER	1047	31.427	-21.676	16.383	1.00	49.81
ATOM	1321	CB	SER	1047	30.296	-22.621	15.965	1.00	49.64
ATOM	1322	OG	SER	1047	30.348	-22.881	14.575	1.00	51.18
ATOM	1323	C	SER	1047	32.779	-22.312	16.049	1.00	49.64
ATOM	1324	O	SER	1047	33.093	-23.400	16.545	1.00	49.83
ATOM	1325	N	ASP	1048	33.580	-21.650	15.215	1.00	49.08
ATOM	1326	CA	ASP	1048	34.892	-22.195	14.886	1.00	49.34
ATOM	1327	CB	ASP	1048	35.678	-21.214	14.013	1.00	50.61
ATOM	1328	CG	ASP	1048	36.989	-21.802	13.512	1.00	52.25
ATOM	1329	OD1	ASP	1048	37.182	-21.870	12.274	1.00	51.73
ATOM	1330	OD2	ASP	1048	37.824	-22.198	14.361	1.00	53.93
ATOM	1331	C	ASP	1048	35.629	-22.446	16.210	1.00	48.69
ATOM	1332	O	ASP	1048	35.611	-21.608	17.112	1.00	49.14
ATOM	1333	N	PRO	1049	36.278	-23.609	16.348	1.00	48.13
ATOM	1334	CD	PRO	1049	36.309	-24.744	15.404	1.00	47.77
ATOM	1335	CA	PRO	1049	37.000	-23.929	17.589	1.00	47.42
ATOM	1336	CB	PRO	1049	37.169	-25.441	17.498	1.00	47.51
ATOM	1337	CG	PRO	1049	37.377	-25.641	16.007	1.00	47.82
ATOM	1338	C	PRO	1049	38.339	-23.222	17.803	1.00	46.24
ATOM	1339	O	PRO	1049	38.826	-23.136	18.931	1.00	46.26
ATOM	1340	N	HIS	1050	38.927	-22.705	16.733	1.00	45.40
ATOM	1341	CA	HIS	1050	40.229	-22.055	16.840	1.00	44.97
ATOM	1342	CB	HIS	1050	41.074	-22.427	15.620	1.00	47.09
ATOM	1343	CG	HIS	1050	41.116	-23.898	15.354	1.00	48.98
ATOM	1344	CD2	HIS	1050	40.546	-24.643	14.378	1.00	49.76
ATOM	1345	ND1	HIS	1050	41.725	-24.790	16.212	1.00	49.94
ATOM	1346	CE1	HIS	1050	41.521	-26.022	15.781	1.00	50.17
ATOM	1347	NE2	HIS	1050	40.807	-25.961	14.671	1.00	50.81
ATOM	1348	C	HIS	1050	40.210	-20.533	17.007	1.00	43.71
ATOM	1349	O	HIS	1050	41.206	-19.857	16.712	1.00	42.83
ATOM	1350	N	ILE	1051	39.090	-19.991	17.474	1.00	42.29
ATOM	1351	CA	ILE	1051	38.986	-18.550	17.666	1.00	41.42
ATOM	1352	CB	ILE	1051	37.754	-17.949	16.937	1.00	41.85
ATOM	1353	CG2	ILE	1051	37.869	-18.163	15.432	1.00	40.96
ATOM	1354	CG1	ILE	1051	36.466	-18.574	17.481	1.00	41.77
ATOM	1355	CD1	ILE	1051	35.202	-18.055	16.819	1.00	41.31
ATOM	1356	C	ILE	1051	38.887	-18.213	19.147	1.00	41.39
ATOM	1357	O	ILE	1051	38.915	-17.041	19.514	1.00	41.97
ATOM	1358	N	LYS	1052	38.751	-19.235	19.990	1.00	40.65

ATOM	1359	CA	LYS	1052	38.691	-19.019	21.430	1.00	40.17
ATOM	1360	CB	LYS	1052	38.097	-20.240	22.138	1.00	41.55
ATOM	1361	CG	LYS	1052	36.582	-20.393	21.930	1.00	42.42
ATOM	1362	CD	LYS	1052	36.033	-21.605	22.674	1.00	43.81
ATOM	1363	CE	LYS	1052	34.504	-21.708	22.575	1.00	45.45
ATOM	1364	NZ	LYS	1052	33.772	-20.686	23.424	1.00	45.62
ATOM	1365	C	LYS	1052	40.126	-18.757	21.878	1.00	39.41
ATOM	1366	O	LYS	1052	40.984	-19.634	21.813	1.00	39.71
ATOM	1367	N	LEU	1053	40.376	-17.528	22.314	1.00	38.15
ATOM	1368	CA	LEU	1053	41.702	-17.114	22.724	1.00	36.95
ATOM	1369	CB	LEU	1053	42.109	-15.858	21.959	1.00	37.91
ATOM	1370	CG	LEU	1053	41.812	-15.861	20.460	1.00	39.28
ATOM	1371	CD1	LEU	1053	42.326	-14.563	19.826	1.00	38.72
ATOM	1372	CD2	LEU	1053	42.459	-17.085	19.818	1.00	39.26
ATOM	1373	C	LEU	1053	41.802	-16.830	24.208	1.00	36.68
ATOM	1374	O	LEU	1053	40.811	-16.526	24.862	1.00	36.32
ATOM	1375	N	GLN	1054	43.017	-16.921	24.733	1.00	36.39
ATOM	1376	CA	GLN	1054	43.258	-16.656	26.136	1.00	36.19
ATOM	1377	CB	GLN	1054	43.895	-17.867	26.813	1.00	37.63
ATOM	1378	CG	GLN	1054	44.088	-17.727	28.307	1.00	40.04
ATOM	1379	CD	GLN	1054	42.773	-17.716	29.071	1.00	41.94
ATOM	1380	OE1	GLN	1054	41.855	-18.480	28.757	1.00	43.62
ATOM	1381	NE2	GLN	1054	42.679	-16.862	30.093	1.00	41.66
ATOM	1382	C	GLN	1054	44.203	-15.473	26.200	1.00	35.81
ATOM	1383	O	GLN	1054	45.385	-15.591	25.876	1.00	36.66
ATOM	1384	N	LEU	1055	43.667	-14.324	26.599	1.00	34.90
ATOM	1385	CA	LEU	1055	44.448	-13.100	26.715	1.00	33.68
ATOM	1386	CB	LEU	1055	43.544	-11.889	26.475	1.00	33.52
ATOM	1387	CG	LEU	1055	42.994	-11.606	25.075	1.00	33.79
ATOM	1388	CD1	LEU	1055	44.017	-10.825	24.288	1.00	34.64
ATOM	1389	CD2	LEU	1055	42.632	-12.892	24.362	1.00	33.74
ATOM	1390	C	LEU	1055	45.001	-13.054	28.129	1.00	33.26
ATOM	1391	O	LEU	1055	44.242	-13.065	29.103	1.00	33.28
ATOM	1392	N	GLN	1056	46.320	-13.014	28.246	1.00	32.80
ATOM	1393	CA	GLN	1056	46.961	-12.971	29.555	1.00	32.13
ATOM	1394	CB	GLN	1056	47.734	-14.266	29.811	1.00	31.10
ATOM	1395	CG	GLN	1056	48.604	-14.275	31.062	1.00	29.05
ATOM	1396	CD	GLN	1056	47.804	-14.189	32.353	1.00	28.30
ATOM	1397	OE1	GLN	1056	46.848	-14.936	32.564	1.00	26.33
ATOM	1398	NE2	GLN	1056	48.204	-13.277	33.231	1.00	28.66
ATOM	1399	C	GLN	1056	47.907	-11.793	29.659	1.00	32.97
ATOM	1400	O	GLN	1056	48.793	-11.609	28.827	1.00	33.80
ATOM	1401	N	ALA	1057	47.714	-10.983	30.690	1.00	34.16
ATOM	1402	CA	ALA	1057	48.571	-9.829	30.901	1.00	34.77
ATOM	1403	CB	ALA	1057	47.937	-8.889	31.903	1.00	35.14
ATOM	1404	C	ALA	1057	49.908	-10.314	31.421	1.00	35.94
ATOM	1405	O	ALA	1057	49.965	-11.185	32.289	1.00	37.40
ATOM	1406	N	GLU	1058	50.986	-9.767	30.878	1.00	36.68
ATOM	1407	CA	GLU	1058	52.327	-10.142	31.316	1.00	38.07
ATOM	1408	CB	GLU	1058	53.267	-10.216	30.106	1.00	40.22
ATOM	1409	CG	GLU	1058	54.651	-10.805	30.382	1.00	42.31
ATOM	1410	CD	GLU	1058	54.608	-12.251	30.876	1.00	43.56
ATOM	1411	OE1	GLU	1058	53.775	-13.040	30.381	1.00	42.97
ATOM	1412	OE2	GLU	1058	55.427	-12.603	31.755	1.00	45.41
ATOM	1413	C	GLU	1058	52.768	-9.048	32.281	1.00	37.80
ATOM	1414	O	GLU	1058	53.576	-9.276	33.181	1.00	38.46
ATOM	1415	N	GLU	1059	52.209	-7.860	32.072	1.00	37.53
ATOM	1416	CA	GLU	1059	52.463	-6.681	32.890	1.00	37.34
ATOM	1417	CB	GLU	1059	53.814	-6.051	32.543	1.00	38.89
ATOM	1418	CG	GLU	1059	54.015	-5.731	31.068	1.00	40.83
ATOM	1419	CD	GLU	1059	55.296	-4.945	30.813	1.00	42.41
ATOM	1420	OE1	GLU	1059	56.238	-5.065	31.626	1.00	42.54

ATOM	1421	OE2	GLU	1059	55.376	-4.212	29.797	1.00	44.23
ATOM	1422	C	GLU	1059	51.341	-5.710	32.556	1.00	36.49
ATOM	1423	O	GLU	1059	50.520	-5.993	31.695	1.00	36.73
ATOM	1424	N	ARG	1060	51.307	-4.562	33.217	1.00	35.77
ATOM	1425	CA	ARG	1060	50.252	-3.598	32.958	1.00	34.88
ATOM	1426	CB	ARG	1060	50.463	-2.332	33.787	1.00	34.85
ATOM	1427	CG	ARG	1060	49.178	-1.556	33.991	1.00	35.40
ATOM	1428	CD	ARG	1060	49.255	-0.704	35.237	1.00	37.27
ATOM	1429	NE	ARG	1060	50.018	0.522	35.025	1.00	38.24
ATOM	1430	CZ	ARG	1060	49.482	1.682	34.663	1.00	38.43
ATOM	1431	NH1	ARG	1060	48.168	1.791	34.473	1.00	38.15
ATOM	1432	NH2	ARG	1060	50.264	2.734	34.481	1.00	38.56
ATOM	1433	C	ARG	1060	50.120	-3.214	31.491	1.00	34.18
ATOM	1434	O	ARG	1060	51.071	-2.734	30.872	1.00	34.49
ATOM	1435	N	GLY	1061	48.928	-3.430	30.944	1.00	33.22
ATOM	1436	CA	GLY	1061	48.664	-3.075	29.562	1.00	32.26
ATOM	1437	C	GLY	1061	49.307	-3.930	28.491	1.00	31.49
ATOM	1438	O	GLY	1061	49.110	-3.680	27.303	1.00	31.17
ATOM	1439	N	VAL	1062	50.075	-4.938	28.892	1.00	31.31
ATOM	1440	CA	VAL	1062	50.734	-5.806	27.925	1.00	30.67
ATOM	1441	CB	VAL	1062	52.269	-5.783	28.118	1.00	31.35
ATOM	1442	CG1	VAL	1062	52.949	-6.589	27.022	1.00	31.23
ATOM	1443	CG2	VAL	1062	52.775	-4.351	28.102	1.00	29.96
ATOM	1444	C	VAL	1062	50.215	-7.225	28.056	1.00	30.42
ATOM	1445	O	VAL	1062	50.217	-7.801	29.148	1.00	31.05
ATOM	1446	N	VAL	1063	49.771	-7.792	26.942	1.00	30.01
ATOM	1447	CA	VAL	1063	49.229	-9.142	26.974	1.00	30.55
ATOM	1448	CB	VAL	1063	47.719	-9.100	26.749	1.00	31.02
ATOM	1449	CG1	VAL	1063	47.068	-8.189	27.768	1.00	30.19
ATOM	1450	CG2	VAL	1063	47.441	-8.617	25.332	1.00	30.82
ATOM	1451	C	VAL	1063	49.816	-10.079	25.920	1.00	30.85
ATOM	1452	O	VAL	1063	50.499	-9.642	24.980	1.00	30.00
ATOM	1453	N	SER	1064	49.533	-11.370	26.094	1.00	30.84
ATOM	1454	CA	SER	1064	49.941	-12.395	25.146	1.00	31.36
ATOM	1455	CB	SER	1064	50.774	-13.484	25.823	1.00	32.07
ATOM	1456	OG	SER	1064	49.961	-14.377	26.569	1.00	33.57
ATOM	1457	C	SER	1064	48.597	-12.961	24.697	1.00	31.87
ATOM	1458	O	SER	1064	47.622	-12.945	25.463	1.00	32.25
ATOM	1459	N	ILE	1065	48.532	-13.443	23.461	1.00	32.46
ATOM	1460	CA	ILE	1065	47.293	-13.988	22.933	1.00	32.51
ATOM	1461	CB	ILE	1065	46.847	-13.200	21.701	1.00	32.07
ATOM	1462	CG2	ILE	1065	45.544	-13.762	21.156	1.00	31.65
ATOM	1463	CG1	ILE	1065	46.668	-11.729	22.076	1.00	31.58
ATOM	1464	CD1	ILE	1065	46.486	-10.827	20.896	1.00	30.40
ATOM	1465	C	ILE	1065	47.509	-15.432	22.546	1.00	34.10
ATOM	1466	O	ILE	1065	48.212	-15.725	21.579	1.00	35.54
ATOM	1467	N	LYS	1066	46.899	-16.337	23.299	1.00	34.71
ATOM	1468	CA	LYS	1066	47.043	-17.761	23.036	1.00	35.91
ATOM	1469	CB	LYS	1066	47.462	-18.486	24.321	1.00	38.31
ATOM	1470	CG	LYS	1066	47.350	-20.013	24.244	1.00	40.88
ATOM	1471	CD	LYS	1066	47.619	-20.667	25.595	1.00	42.92
ATOM	1472	CE	LYS	1066	47.358	-22.171	25.544	1.00	44.95
ATOM	1473	NZ	LYS	1066	47.701	-22.842	26.833	1.00	46.13
ATOM	1474	C	LYS	1066	45.786	-18.434	22.483	1.00	35.92
ATOM	1475	O	LYS	1066	44.706	-18.324	23.066	1.00	34.93
ATOM	1476	N	GLY	1067	45.940	-19.141	21.363	1.00	36.18
ATOM	1477	CA	GLY	1067	44.820	-19.854	20.776	1.00	37.17
ATOM	1478	C	GLY	1067	44.667	-21.120	21.594	1.00	37.98
ATOM	1479	O	GLY	1067	45.523	-21.995	21.532	1.00	38.92
ATOM	1480	N	VAL	1068	43.591	-21.223	22.364	1.00	38.49
ATOM	1481	CA	VAL	1068	43.381	-22.379	23.225	1.00	39.65
ATOM	1482	CB	VAL	1068	41.994	-22.329	23.882	1.00	40.03

ATOM	1483	CG1	VAL	1068	41.770	-23.568	24.731	1.00	39.36
ATOM	1484	CG2	VAL	1068	41.884	-21.075	24.742	1.00	41.04
ATOM	1485	C	VAL	1068	43.570	-23.748	22.572	1.00	40.97
ATOM	1486	O	VAL	1068	44.411	-24.535	23.012	1.00	41.24
ATOM	1487	N	SER	1069	42.799	-24.041	21.531	1.00	41.94
ATOM	1488	CA	SER	1069	42.910	-25.331	20.863	1.00	42.83
ATOM	1489	CB	SER	1069	41.784	-25.486	19.851	1.00	43.86
ATOM	1490	OG	SER	1069	42.018	-24.631	18.746	1.00	46.24
ATOM	1491	C	SER	1069	44.244	-25.503	20.137	1.00	42.83
ATOM	1492	O	SER	1069	44.805	-26.599	20.104	1.00	43.52
ATOM	1493	N	ALA	1070	44.759	-24.435	19.546	1.00	42.82
ATOM	1494	CA	ALA	1070	46.025	-24.549	18.820	1.00	43.01
ATOM	1495	CB	ALA	1070	46.197	-23.368	17.861	1.00	43.29
ATOM	1496	C	ALA	1070	47.216	-24.624	19.766	1.00	43.23
ATOM	1497	O	ALA	1070	48.312	-25.038	19.373	1.00	43.44
ATOM	1498	N	ASN	1071	46.988	-24.231	21.016	1.00	43.29
ATOM	1499	CA	ASN	1071	48.027	-24.210	22.038	1.00	43.23
ATOM	1500	CB	ASN	1071	48.426	-25.622	22.462	1.00	44.34
ATOM	1501	CG	ASN	1071	49.064	-25.646	23.840	1.00	45.34
ATOM	1502	OD1	ASN	1071	49.794	-24.723	24.212	1.00	45.90
ATOM	1503	ND2	ASN	1071	48.797	-26.702	24.603	1.00	45.33
ATOM	1504	C	ASN	1071	49.259	-23.456	21.549	1.00	43.02
ATOM	1505	O	ASN	1071	50.394	-23.836	21.838	1.00	43.64
ATOM	1506	N	ARG	1072	49.026	-22.381	20.801	1.00	43.48
ATOM	1507	CA	ARG	1072	50.110	-21.542	20.288	1.00	43.30
ATOM	1508	CB	ARG	1072	50.241	-21.703	18.777	1.00	44.71
ATOM	1509	CG	ARG	1072	50.554	-23.122	18.350	1.00	46.34
ATOM	1510	CD	ARG	1072	51.225	-23.114	16.995	1.00	47.85
ATOM	1511	NE	ARG	1072	51.842	-24.395	16.674	1.00	48.69
ATOM	1512	CZ	ARG	1072	52.787	-24.550	15.755	1.00	49.14
ATOM	1513	NH1	ARG	1072	53.219	-23.499	15.070	1.00	49.08
ATOM	1514	NH2	ARG	1072	53.302	-25.751	15.524	1.00	49.78
ATOM	1515	C	ARG	1072	49.852	-20.075	20.626	1.00	42.76
ATOM	1516	O	ARG	1072	48.705	-19.669	20.815	1.00	42.80
ATOM	1517	N	TYR	1073	50.924	-19.292	20.696	1.00	41.88
ATOM	1518	CA	TYR	1073	50.834	-17.875	21.026	1.00	41.32
ATOM	1519	CB	TYR	1073	51.920	-17.519	22.055	1.00	42.03
ATOM	1520	CG	TYR	1073	51.773	-18.283	23.356	1.00	43.12
ATOM	1521	CD1	TYR	1073	51.810	-19.679	23.374	1.00	44.00
ATOM	1522	CE1	TYR	1073	51.599	-20.396	24.551	1.00	43.97
ATOM	1523	CD2	TYR	1073	51.528	-17.619	24.559	1.00	43.01
ATOM	1524	CE2	TYR	1073	51.316	-18.326	25.740	1.00	43.33
ATOM	1525	CZ	TYR	1073	51.350	-19.716	25.727	1.00	44.01
ATOM	1526	OH	TYR	1073	51.108	-20.437	26.881	1.00	44.55
ATOM	1527	C	TYR	1073	50.992	-17.014	19.785	1.00	40.80
ATOM	1528	O	TYR	1073	51.854	-17.269	18.956	1.00	41.47
ATOM	1529	N	LEU	1074	50.161	-15.989	19.659	1.00	40.28
ATOM	1530	CA	LEU	1074	50.242	-15.098	18.511	1.00	40.12
ATOM	1531	CB	LEU	1074	49.063	-14.129	18.510	1.00	41.27
ATOM	1532	CG	LEU	1074	48.906	-13.214	17.295	1.00	41.51
ATOM	1533	CD1	LEU	1074	48.573	-14.034	16.037	1.00	41.06
ATOM	1534	CD2	LEU	1074	47.805	-12.216	17.595	1.00	41.89
ATOM	1535	C	LEU	1074	51.538	-14.308	18.586	1.00	39.73
ATOM	1536	O	LEU	1074	51.931	-13.842	19.657	1.00	39.05
ATOM	1537	N	ALA	1075	52.199	-14.164	17.444	1.00	40.38
ATOM	1538	CA	ALA	1075	53.452	-13.428	17.382	1.00	41.01
ATOM	1539	CB	ALA	1075	54.628	-14.384	17.530	1.00	41.24
ATOM	1540	C	ALA	1075	53.538	-12.687	16.062	1.00	41.68
ATOM	1541	O	ALA	1075	53.034	-13.164	15.044	1.00	42.01
ATOM	1542	N	MET	1076	54.147	-11.505	16.090	1.00	42.93
ATOM	1543	CA	MET	1076	54.307	-10.719	14.876	1.00	44.36
ATOM	1544	CB	MET	1076	53.730	-9.310	15.028	1.00	45.67

ATOM	1545	CG	MET	1076	53.602	-8.614	13.679	1.00	47.95
ATOM	1546	SD	MET	1076	52.884	-6.975	13.725	1.00	50.84
ATOM	1547	CE	MET	1076	54.316	-6.072	14.291	1.00	50.93
ATOM	1548	C	MET	1076	55.792	-10.640	14.575	1.00	45.02
ATOM	1549	O	MET	1076	56.598	-10.333	15.457	1.00	44.82
ATOM	1550	N	LYS	1077	56.150	-10.912	13.324	1.00	45.89
ATOM	1551	CA	LYS	1077	57.553	-10.913	12.927	1.00	47.40
ATOM	1552	CB	LYS	1077	57.768	-11.892	11.768	1.00	47.77
ATOM	1553	CG	LYS	1077	57.055	-13.225	11.941	1.00	48.14
ATOM	1554	CD	LYS	1077	57.434	-13.921	13.237	1.00	49.22
ATOM	1555	CE	LYS	1077	58.912	-14.257	13.289	1.00	49.55
ATOM	1556	NZ	LYS	1077	59.222	-15.142	14.452	1.00	50.27
ATOM	1557	C	LYS	1077	58.101	-9.548	12.537	1.00	48.26
ATOM	1558	O	LYS	1077	57.370	-8.560	12.471	1.00	48.92
ATOM	1559	N	GLU	1078	59.403	-9.520	12.277	1.00	49.19
ATOM	1560	CA	GLU	1078	60.126	-8.316	11.886	1.00	49.91
ATOM	1561	CB	GLU	1078	61.597	-8.668	11.706	1.00	52.16
ATOM	1562	CG	GLU	1078	61.794	-9.721	10.619	1.00	54.90
ATOM	1563	CD	GLU	1078	63.069	-10.508	10.790	1.00	56.71
ATOM	1564	OE1	GLU	1078	64.153	-9.896	10.674	1.00	58.13
ATOM	1565	OE2	GLU	1078	62.983	-11.736	11.043	1.00	57.52
ATOM	1566	C	GLU	1078	59.602	-7.713	10.585	1.00	49.66
ATOM	1567	O	GLU	1078	59.733	-6.507	10.359	1.00	50.24
ATOM	1568	N	ASP	1079	59.036	-8.548	9.717	1.00	49.12
ATOM	1569	CA	ASP	1079	58.511	-8.054	8.441	1.00	49.19
ATOM	1570	CB	ASP	1079	58.653	-9.120	7.342	1.00	50.24
ATOM	1571	CG	ASP	1079	57.938	-10.417	7.684	1.00	52.00
ATOM	1572	OD1	ASP	1079	57.965	-11.349	6.842	1.00	52.09
ATOM	1573	OD2	ASP	1079	57.350	-10.506	8.793	1.00	52.96
ATOM	1574	C	ASP	1079	57.047	-7.630	8.582	1.00	48.50
ATOM	1575	O	ASP	1079	56.482	-6.988	7.688	1.00	48.36
ATOM	1576	N	GLY	1080	56.443	-7.991	9.715	1.00	47.52
ATOM	1577	CA	GLY	1080	55.061	-7.631	9.971	1.00	46.23
ATOM	1578	C	GLY	1080	54.064	-8.759	9.811	1.00	45.48
ATOM	1579	O	GLY	1080	52.879	-8.567	10.069	1.00	45.56
ATOM	1580	N	ARG	1081	54.522	-9.933	9.391	1.00	44.96
ATOM	1581	CA	ARG	1081	53.607	-11.052	9.213	1.00	44.59
ATOM	1582	CB	ARG	1081	54.221	-12.115	8.286	1.00	46.85
ATOM	1583	CG	ARG	1081	55.528	-12.734	8.752	1.00	48.82
ATOM	1584	CD	ARG	1081	56.105	-13.672	7.679	1.00	51.03
ATOM	1585	NE	ARG	1081	57.115	-14.587	8.218	1.00	52.75
ATOM	1586	CZ	ARG	1081	58.347	-14.233	8.581	1.00	53.55
ATOM	1587	NH1	ARG	1081	58.745	-12.975	8.461	1.00	53.83
ATOM	1588	NH2	ARG	1081	59.183	-15.139	9.079	1.00	54.39
ATOM	1589	C	ARG	1081	53.240	-11.649	10.558	1.00	43.71
ATOM	1590	O	ARG	1081	53.967	-11.475	11.537	1.00	43.67
ATOM	1591	N	LEU	1082	52.103	-12.339	10.610	1.00	43.10
ATOM	1592	CA	LEU	1082	51.630	-12.940	11.852	1.00	41.76
ATOM	1593	CB	LEU	1082	50.189	-12.504	12.142	1.00	41.58
ATOM	1594	CG	LEU	1082	49.857	-11.017	12.311	1.00	40.60
ATOM	1595	CD1	LEU	1082	48.382	-10.887	12.651	1.00	39.79
ATOM	1596	CD2	LEU	1082	50.713	-10.392	13.401	1.00	39.86
ATOM	1597	C	LEU	1082	51.680	-14.453	11.792	1.00	42.13
ATOM	1598	O	LEU	1082	51.514	-15.050	10.724	1.00	42.31
ATOM	1599	N	LEU	1083	51.899	-15.073	12.949	1.00	42.41
ATOM	1600	CA	LEU	1083	51.956	-16.529	13.046	1.00	42.52
ATOM	1601	CB	LEU	1083	53.312	-17.047	12.553	1.00	43.68
ATOM	1602	CG	LEU	1083	54.555	-16.431	13.218	1.00	44.42
ATOM	1603	CD1	LEU	1083	54.681	-16.909	14.659	1.00	44.61
ATOM	1604	CD2	LEU	1083	55.796	-16.811	12.424	1.00	44.50
ATOM	1605	C	LEU	1083	51.773	-16.914	14.494	1.00	42.49
ATOM	1606	O	LEU	1083	51.906	-16.077	15.379	1.00	42.85

ATOM	1607	N	ALA	1084	51.476	-18.182	14.741	1.00	42.91
ATOM	1608	CA	ALA	1084	51.293	-18.652	16.108	1.00	43.06
ATOM	1609	CB	ALA	1084	49.976	-19.396	16.238	1.00	42.67
ATOM	1610	C	ALA	1084	52.453	-19.556	16.528	1.00	43.74
ATOM	1611	O	ALA	1084	52.552	-20.712	16.101	1.00	44.02
ATOM	1612	N	SER	1085	53.325	-19.006	17.365	1.00	43.87
ATOM	1613	CA	SER	1085	54.490	-19.710	17.885	1.00	44.00
ATOM	1614	CB	SER	1085	55.496	-18.679	18.409	1.00	44.79
ATOM	1615	OG	SER	1085	56.398	-19.254	19.335	1.00	45.48
ATOM	1616	C	SER	1085	54.108	-20.688	19.000	1.00	44.32
ATOM	1617	O	SER	1085	53.175	-20.441	19.769	1.00	44.49
ATOM	1618	N	LYS	1086	54.835	-21.798	19.079	1.00	44.70
ATOM	1619	CA	LYS	1086	54.588	-22.820	20.094	1.00	45.19
ATOM	1620	CB	LYS	1086	55.266	-24.131	19.675	1.00	46.52
ATOM	1621	CG	LYS	1086	54.703	-25.397	20.312	1.00	47.78
ATOM	1622	CD	LYS	1086	53.331	-25.743	19.748	1.00	49.13
ATOM	1623	CE	LYS	1086	52.910	-27.155	20.151	1.00	49.88
ATOM	1624	NZ	LYS	1086	51.542	-27.514	19.656	1.00	50.32
ATOM	1625	C	LYS	1086	55.139	-22.366	21.452	1.00	44.74
ATOM	1626	O	LYS	1086	54.625	-22.743	22.501	1.00	44.11
ATOM	1627	N	SER	1087	56.192	-21.559	21.422	1.00	44.87
ATOM	1628	CA	SER	1087	56.804	-21.063	22.650	1.00	45.28
ATOM	1629	CB	SER	1087	58.271	-21.490	22.716	1.00	46.02
ATOM	1630	OG	SER	1087	58.975	-21.066	21.558	1.00	47.68
ATOM	1631	C	SER	1087	56.710	-19.548	22.713	1.00	45.02
ATOM	1632	O	SER	1087	56.562	-18.886	21.691	1.00	45.40
ATOM	1633	N	VAL	1088	56.809	-18.998	23.916	1.00	45.20
ATOM	1634	CA	VAL	1088	56.712	-17.554	24.095	1.00	45.29
ATOM	1635	CB	VAL	1088	56.189	-17.222	25.497	1.00	45.46
ATOM	1636	CG1	VAL	1088	56.243	-15.717	25.724	1.00	46.33
ATOM	1637	CG2	VAL	1088	54.763	-17.749	25.645	1.00	45.09
ATOM	1638	C	VAL	1088	58.016	-16.806	23.866	1.00	44.97
ATOM	1639	O	VAL	1088	59.025	-17.094	24.498	1.00	45.20
ATOM	1640	N	THR	1089	57.988	-15.841	22.956	1.00	45.32
ATOM	1641	CA	THR	1089	59.170	-15.035	22.658	1.00	45.53
ATOM	1642	CB	THR	1089	59.655	-15.260	21.223	1.00	46.30
ATOM	1643	OG1	THR	1089	58.949	-14.383	20.333	1.00	47.07
ATOM	1644	CG2	THR	1089	59.399	-16.706	20.810	1.00	46.45
ATOM	1645	C	THR	1089	58.776	-13.573	22.816	1.00	45.35
ATOM	1646	O	THR	1089	57.596	-13.264	23.003	1.00	45.32
ATOM	1647	N	ASP	1090	59.747	-12.672	22.739	1.00	45.33
ATOM	1648	CA	ASP	1090	59.434	-11.261	22.902	1.00	45.38
ATOM	1649	CB	ASP	1090	60.713	-10.431	23.010	1.00	45.99
ATOM	1650	CG	ASP	1090	61.720	-10.772	21.941	1.00	47.95
ATOM	1651	OD1	ASP	1090	61.310	-11.144	20.816	1.00	47.57
ATOM	1652	OD2	ASP	1090	62.933	-10.655	22.226	1.00	49.45
ATOM	1653	C	ASP	1090	58.539	-10.712	21.789	1.00	45.04
ATOM	1654	O	ASP	1090	58.078	-9.572	21.867	1.00	45.86
ATOM	1655	N	GLU	1091	58.280	-11.517	20.761	1.00	44.05
ATOM	1656	CA	GLU	1091	57.418	-11.081	19.658	1.00	43.33
ATOM	1657	CB	GLU	1091	57.881	-11.693	18.330	1.00	44.73
ATOM	1658	CG	GLU	1091	59.277	-11.309	17.860	1.00	46.78
ATOM	1659	CD	GLU	1091	59.630	-11.968	16.535	1.00	48.21
ATOM	1660	OE1	GLU	1091	59.574	-13.217	16.457	1.00	49.24
ATOM	1661	OE2	GLU	1091	59.958	-11.240	15.569	1.00	49.52
ATOM	1662	C	GLU	1091	55.961	-11.508	19.905	1.00	42.20
ATOM	1663	O	GLU	1091	55.104	-11.385	19.018	1.00	41.24
ATOM	1664	N	CYS	1092	55.692	-12.015	21.106	1.00	40.91
ATOM	1665	CA	CYS	1092	54.359	-12.493	21.468	1.00	39.88
ATOM	1666	CB	CYS	1092	54.460	-13.848	22.164	1.00	40.43
ATOM	1667	SG	CYS	1092	54.899	-15.188	21.085	1.00	42.83
ATOM	1668	C	CYS	1092	53.596	-11.556	22.381	1.00	38.38

ATOM	1669	O	CYS	1092	52.503	-11.894	22.851	1.00	37.68	
ATOM	1670	N	PHE	1093	54.166	-10.386	22.631	1.00	36.99	
ATOM	1671	CA	PHE	1093	53.536	-9.426	23.514	1.00	36.82	
ATOM	1672	CB	PHE	1093	54.515	-9.076	24.625	1.00	37.12	
ATOM	1673	CG	PHE	1093	54.888	-10.259	25.458	1.00	38.19	
ATOM	1674	CD1	PHE	1093	53.961	-10.822	26.332	1.00	38.40	
ATOM	1675	CD2	PHE	1093	56.138	-10.855	25.325	1.00	38.91	
ATOM	1676	CE1	PHE	1093	54.266	-11.963	27.059	1.00	39.04	
ATOM	1677	CE2	PHE	1093	56.459	-11.997	26.046	1.00	39.84	
ATOM	1678	CZ	PHE	1093	55.520	-12.557	26.919	1.00	39.76	
ATOM	1679	C	PHE	1093	53.018	-8.178	22.822	1.00	36.13	
ATOM	1680	O	PHE	1093	53.686	-7.595	21.968	1.00	35.71	
ATOM	1681	N	PHE	1094	51.817	-7.767	23.211	1.00	35.65	
ATOM	1682	CA	PHE	1094	51.194	-6.597	22.613	1.00	35.80	
ATOM	1683	CB	PHE	1094	50.107	-7.057	21.639	1.00	37.57	
ATOM	1684	CG	PHE	1094	50.554	-8.148	20.713	1.00	39.41	
ATOM	1685	CD1	PHE	1094	51.109	-7.843	19.469	1.00	40.39	
ATOM	1686	CD2	PHE	1094	50.479	-9.482	21.107	1.00	40.13	
ATOM	1687	CE1	PHE	1094	51.588	-8.858	18.628	1.00	40.94	
ATOM	1688	CE2	PHE	1094	50.954	-10.505	20.279	1.00	40.66	
ATOM	1689	CZ	PHE	1094	51.511	-10.191	19.037	1.00	40.89	
ATOM	1690	C	PHE	1094	50.582	-5.655	23.651	1.00	35.14	
ATOM	1691	O	PHE	1094	50.145	-6.087	24.720	1.00	35.22	
ATOM	1692	N	PHE	1095	50.575	-4.363	23.332	1.00	34.56	
ATOM	1693	CA	PHE	1095	49.962	-3.365	24.205	1.00	33.77	
ATOM	1694	CB	PHE	1095	50.388	-1.933	23.849	1.00	34.28	
ATOM	1695	CG	PHE	1095	51.809	-1.603	24.186	1.00	35.38	
ATOM	1696	CD1	PHE	1095	52.769	-1.499	23.182	1.00	36.09	
ATOM	1697	CD2	PHE	1095	52.192	-1.382	25.507	1.00	35.44	
ATOM	1698	CE1	PHE	1095	54.099	-1.177	23.492	1.00	36.70	
ATOM	1699	CE2	PHE	1095	53.517	-1.061	25.833	1.00	35.77	
ATOM	1700	CZ	PHE	1095	54.473	-0.957	24.827	1.00	36.05	
ATOM	1701	C	PHE	1095	48.477	-3.464	23.897	1.00	33.37	
ATOM	1702	O	PHE	1095	48.071	-3.230	22.757	1.00	34.29	
ATOM	1703	N	GLU	1096	47.671	-3.823	24.889	1.00	32.53	
ATOM	1704	CA	GLU	1096	46.235	-3.919	24.686	1.00	32.51	
ATOM	1705	CB	GLU	1096	45.635	-5.060	25.519	1.00	32.85	
ATOM	1706	CG	GLU	1096	44.109	-5.114	25.448	1.00	33.94	
ATOM	1707	CD	GLU	1096	43.518	-6.305	26.174	1.00	34.39	
ATOM	1708	OE1	GLU	1096	43.805	-6.463	27.380	1.00	34.98	
ATOM	1709	OE2	GLU	1096	42.761	-7.081	25.543	1.00	34.04	
ATOM	1710	C	GLU	1096	45.624	-2.599	25.120	1.00	32.26	
ATOM	1711	O	GLU	1096	45.751	-2.205	26.275	1.00	32.54	
ATOM	1712	N	ARG	1097	44.975	-1.900	24.201	1.00	32.08	
ATOM	1713	CA	ARG	1097	44.372	-0.642	24.580	1.00	31.95	
ATOM	1714	CB	ARG	1097	45.135	0.537	23.971	1.00	33.89	
ATOM	1715	CG	ARG	1097	44.688	1.882	24.547	1.00	38.54	
ATOM	1716	CD	ARG	1097	45.368	3.092	23.885	1.00	40.80	
ATOM	1717	NE	ARG	1097	44.670	4.347	24.186	1.00	42.26	
ATOM	1718	CZ	ARG	1097	44.554	4.881	25.403	1.00	43.84	
ATOM	1719	NH1	ARG	1097	45.093	4.281	26.464	1.00	44.26	
ATOM	1720	NH2	ARG	1097	43.886	6.018	25.561	1.00	43.98	
ATOM	1721	C	ARG	1097	42.904	-0.565	24.211	1.00	30.60	
ATOM	1722	O	ARG	1097	42.503	-0.946	23.107	1.00	31.12	
ATOM	1723	N	LEU	1098	42.101	-0.111	25.171	1.00	29.15	
ATOM	1724	CA	LEU	1098	40.666	0.075	24.968	1.00	27.56	
ATOM	1725	CB	LEU	1098	39.904	-0.110	26.285	1.00	26.27	
ATOM	1726	CG	LEU	1098	38.460	0.400	26.340	1.00	25.48	
ATOM	1727	CD1	LEU	1098	37.731	0.042	25.065	1.00	25.37	
ATOM	1728	CD2	LEU	1098	37.737	-0.200	27.538	1.00	24.82	
ATOM	1729	C	LEU	1098	40.574	1.513	24.477	1.00	27.43	
ATOM	1730	O	LEU	1098	40.626	2.461	25.266	1.00	27.06	

ATOM	1731	N	GLU	1099	40.470	1.664	23.163	1.00	27.08
ATOM	1732	CA	GLU	1099	40.429	2.978	22.566	1.00	27.36
ATOM	1733	CB	GLU	1099	40.682	2.842	21.068	1.00	28.55
ATOM	1734	CG	GLU	1099	41.949	2.016	20.751	1.00	30.06
ATOM	1735	CD	GLU	1099	43.276	2.783	20.950	1.00	31.97
ATOM	1736	OE1	GLU	1099	44.356	2.186	20.699	1.00	32.77
ATOM	1737	OE2	GLU	1099	43.251	3.973	21.342	1.00	32.35
ATOM	1738	C	GLU	1099	39.139	3.732	22.871	1.00	27.47
ATOM	1739	O	GLU	1099	38.135	3.154	23.300	1.00	27.15
ATOM	1740	N	SER	1100	39.187	5.042	22.674	1.00	27.31
ATOM	1741	CA	SER	1100	38.046	5.906	22.933	1.00	26.63
ATOM	1742	CB	SER	1100	38.446	7.353	22.682	1.00	25.98
ATOM	1743	OG	SER	1100	38.955	7.509	21.366	1.00	27.10
ATOM	1744	C	SER	1100	36.811	5.550	22.095	1.00	26.75
ATOM	1745	O	SER	1100	35.697	5.961	22.408	1.00	26.58
ATOM	1746	N	ASN	1101	37.009	4.787	21.031	1.00	26.49
ATOM	1747	CA	ASN	1101	35.892	4.400	20.195	1.00	27.31
ATOM	1748	CB	ASN	1101	36.344	4.274	18.737	1.00	28.53
ATOM	1749	CG	ASN	1101	37.499	3.301	18.554	1.00	29.91
ATOM	1750	OD1	ASN	1101	37.735	2.425	19.393	1.00	31.60
ATOM	1751	ND2	ASN	1101	38.214	3.439	17.439	1.00	29.25
ATOM	1752	C	ASN	1101	35.281	3.089	20.671	1.00	27.04
ATOM	1753	O	ASN	1101	34.416	2.530	20.001	1.00	27.41
ATOM	1754	N	ASN	1102	35.750	2.610	21.825	1.00	26.96
ATOM	1755	CA	ASN	1102	35.277	1.377	22.452	1.00	26.80
ATOM	1756	CB	ASN	1102	33.761	1.399	22.553	1.00	28.13
ATOM	1757	CG	ASN	1102	33.272	2.488	23.463	1.00	30.06
ATOM	1758	OD1	ASN	1102	33.577	2.493	24.664	1.00	31.18
ATOM	1759	ND2	ASN	1102	32.515	3.431	22.906	1.00	30.51
ATOM	1760	C	ASN	1102	35.724	0.071	21.821	1.00	27.01
ATOM	1761	O	ASN	1102	35.153	-0.983	22.089	1.00	27.75
ATOM	1762	N	TYR	1103	36.737	0.139	20.973	1.00	26.85
ATOM	1763	CA	TYR	1103	37.272	-1.059	20.349	1.00	27.78
ATOM	1764	CB	TYR	1103	37.368	-0.872	18.843	1.00	29.04
ATOM	1765	CG	TYR	1103	36.085	-1.122	18.094	1.00	30.29
ATOM	1766	CD1	TYR	1103	35.777	-2.399	17.615	1.00	30.52
ATOM	1767	CE1	TYR	1103	34.622	-2.628	16.871	1.00	29.96
ATOM	1768	CD2	TYR	1103	35.196	-0.076	17.815	1.00	30.41
ATOM	1769	CE2	TYR	1103	34.032	-0.300	17.071	1.00	30.20
ATOM	1770	CZ	TYR	1103	33.756	-1.576	16.606	1.00	30.55
ATOM	1771	OH	TYR	1103	32.608	-1.813	15.886	1.00	31.37
ATOM	1772	C	TYR	1103	38.668	-1.210	20.937	1.00	27.43
ATOM	1773	O	TYR	1103	39.238	-0.240	21.436	1.00	26.33
ATOM	1774	N	ASN	1104	39.200	-2.426	20.895	1.00	27.31
ATOM	1775	CA	ASN	1104	40.535	-2.705	21.412	1.00	27.80
ATOM	1776	CB	ASN	1104	40.568	-4.085	22.068	1.00	28.04
ATOM	1777	CG	ASN	1104	39.922	-4.102	23.421	1.00	28.68
ATOM	1778	OD1	ASN	1104	39.020	-3.310	23.704	1.00	29.89
ATOM	1779	ND2	ASN	1104	40.362	-5.018	24.267	1.00	28.26
ATOM	1780	C	ASN	1104	41.531	-2.723	20.264	1.00	27.87
ATOM	1781	O	ASN	1104	41.173	-3.060	19.137	1.00	27.95
ATOM	1782	N	THR	1105	42.774	-2.354	20.550	1.00	27.75
ATOM	1783	CA	THR	1105	43.827	-2.409	19.554	1.00	28.28
ATOM	1784	CB	THR	1105	44.405	-1.022	19.218	1.00	28.48
ATOM	1785	OG1	THR	1105	44.794	-0.359	20.420	1.00	28.92
ATOM	1786	CG2	THR	1105	43.385	-0.181	18.482	1.00	28.84
ATOM	1787	C	THR	1105	44.916	-3.239	20.198	1.00	28.97
ATOM	1788	O	THR	1105	44.985	-3.330	21.424	1.00	29.37
ATOM	1789	N	TYR	1106	45.758	-3.855	19.376	1.00	30.18
ATOM	1790	CA	TYR	1106	46.863	-4.677	19.870	1.00	31.08
ATOM	1791	CB	TYR	1106	46.554	-6.157	19.646	1.00	30.84
ATOM	1792	CG	TYR	1106	45.439	-6.630	20.538	1.00	31.35

ATOM	1793	CD1	TYR	1106	45.688	-7.002	21.859	1.00	31.34
ATOM	1794	CE1	TYR	1106	44.649	-7.301	22.732	1.00	32.19
ATOM	1795	CD2	TYR	1106	44.116	-6.583	20.108	1.00	32.07
ATOM	1796	CE2	TYR	1106	43.063	-6.879	20.979	1.00	32.08
ATOM	1797	CZ	TYR	1106	43.339	-7.228	22.287	1.00	31.83
ATOM	1798	OH	TYR	1106	42.304	-7.441	23.160	1.00	32.96
ATOM	1799	C	TYR	1106	48.125	-4.275	19.130	1.00	31.71
ATOM	1800	O	TYR	1106	48.318	-4.625	17.974	1.00	31.24
ATOM	1801	N	ARG	1107	48.977	-3.529	19.818	1.00	33.58
ATOM	1802	CA	ARG	1107	50.224	-3.018	19.253	1.00	35.32
ATOM	1803	CB	ARG	1107	50.424	-1.581	19.746	1.00	36.45
ATOM	1804	CG	ARG	1107	51.164	-0.651	18.802	1.00	39.83
ATOM	1805	CD	ARG	1107	51.259	0.757	19.402	1.00	42.36
ATOM	1806	NE	ARG	1107	52.243	0.836	20.482	1.00	44.58
ATOM	1807	CZ	ARG	1107	52.394	1.884	21.287	1.00	45.48
ATOM	1808	NH1	ARG	1107	51.617	2.947	21.145	1.00	46.20
ATOM	1809	NH2	ARG	1107	53.340	1.885	22.222	1.00	46.88
ATOM	1810	C	ARG	1107	51.428	-3.876	19.670	1.00	35.84
ATOM	1811	O	ARG	1107	51.599	-4.197	20.851	1.00	35.30
ATOM	1812	N	SER	1108	52.258	-4.239	18.697	1.00	36.59
ATOM	1813	CA	SER	1108	53.451	-5.048	18.954	1.00	38.06
ATOM	1814	CB	SER	1108	54.222	-5.272	17.647	1.00	38.77
ATOM	1815	OG	SER	1108	55.434	-5.965	17.883	1.00	40.41
ATOM	1816	C	SER	1108	54.355	-4.326	19.938	1.00	38.32
ATOM	1817	O	SER	1108	54.683	-3.161	19.726	1.00	38.65
ATOM	1818	N	ARG	1109	54.764	-4.995	21.013	1.00	39.66
ATOM	1819	CA	ARG	1109	55.642	-4.328	21.971	1.00	41.41
ATOM	1820	CB	ARG	1109	55.616	-5.020	23.352	1.00	42.33
ATOM	1821	CG	ARG	1109	56.498	-4.298	24.395	1.00	44.15
ATOM	1822	CD	ARG	1109	56.350	-4.810	25.835	1.00	45.05
ATOM	1823	NE	ARG	1109	56.616	-6.244	25.986	1.00	46.35
ATOM	1824	CZ	ARG	1109	56.880	-6.848	27.146	1.00	47.17
ATOM	1825	NH1	ARG	1109	56.928	-6.152	28.277	1.00	48.51
ATOM	1826	NH2	ARG	1109	57.081	-8.158	27.184	1.00	47.56
ATOM	1827	C	ARG	1109	57.064	-4.297	21.403	1.00	42.12
ATOM	1828	O	ARG	1109	57.894	-3.472	21.804	1.00	42.27
ATOM	1829	N	LYS	1110	57.319	-5.192	20.449	1.00	42.61
ATOM	1830	CA	LYS	1110	58.616	-5.303	19.784	1.00	43.20
ATOM	1831	CB	LYS	1110	58.756	-6.717	19.199	1.00	44.38
ATOM	1832	CG	LYS	1110	60.179	-7.161	18.895	1.00	45.87
ATOM	1833	CD	LYS	1110	60.961	-7.368	20.183	1.00	46.71
ATOM	1834	CE	LYS	1110	62.347	-7.960	19.934	1.00	46.54
ATOM	1835	NZ	LYS	1110	63.039	-8.205	21.240	1.00	46.44
ATOM	1836	C	LYS	1110	58.681	-4.268	18.653	1.00	42.57
ATOM	1837	O	LYS	1110	59.601	-3.439	18.580	1.00	42.84
ATOM	1838	N	TYR	1111	57.686	-4.335	17.773	1.00	41.61
ATOM	1839	CA	TYR	1111	57.579	-3.429	16.630	1.00	41.13
ATOM	1840	CB	TYR	1111	57.245	-4.258	15.396	1.00	41.65
ATOM	1841	CG	TYR	1111	58.142	-5.475	15.302	1.00	42.52
ATOM	1842	CD1	TYR	1111	59.525	-5.332	15.194	1.00	42.63
ATOM	1843	CE1	TYR	1111	60.361	-6.436	15.140	1.00	43.26
ATOM	1844	CD2	TYR	1111	57.615	-6.766	15.356	1.00	42.98
ATOM	1845	CE2	TYR	1111	58.443	-7.882	15.302	1.00	43.72
ATOM	1846	CZ	TYR	1111	59.819	-7.710	15.190	1.00	43.91
ATOM	1847	OH	TYR	1111	60.650	-8.806	15.091	1.00	43.80
ATOM	1848	C	TYR	1111	56.483	-2.425	16.961	1.00	40.38
ATOM	1849	O	TYR	1111	55.397	-2.444	16.401	1.00	39.87
ATOM	1850	N	THR	1112	56.817	-1.551	17.902	1.00	40.63
ATOM	1851	CA	THR	1112	55.938	-0.526	18.452	1.00	40.34
ATOM	1852	CB	THR	1112	56.766	0.475	19.238	1.00	40.33
ATOM	1853	OG1	THR	1112	57.629	1.179	18.335	1.00	40.43
ATOM	1854	CG2	THR	1112	57.597	-0.248	20.295	1.00	39.52

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ATOM   1855  C   THR 1112      54.980   0.272  17.572  1.00 40.34
ATOM   1856  O   THR 1112      54.088   0.930  18.103  1.00 40.94
ATOM   1857  N   SER 1113      55.137   0.234  16.254  1.00 39.79
ATOM   1858  CA  SER 1113      54.239   1.004  15.396  1.00 39.57
ATOM   1859  CB  SER 1113      55.038   1.910  14.451  1.00 40.55
ATOM   1860  OG  SER 1113      55.922   2.757  15.172  1.00 43.39
ATOM   1861  C   SER 1113      53.321   0.125  14.564  1.00 39.13
ATOM   1862  O   SER 1113      52.564   0.623  13.728  1.00 39.03
ATOM   1863  N   TRP 1114      53.380  -1.182  14.781  1.00 38.56
ATOM   1864  CA  TRP 1114      52.532  -2.077  14.008  1.00 38.50
ATOM   1865  CB  TRP 1114      53.368  -3.157  13.316  1.00 41.45
ATOM   1866  CG  TRP 1114      54.439  -2.620  12.398  1.00 44.70
ATOM   1867  CD2 TRP 1114      55.593  -3.326  11.931  1.00 45.63
ATOM   1868  CE2 TRP 1114      56.298  -2.451  11.068  1.00 46.45
ATOM   1869  CE3 TRP 1114      56.100  -4.613  12.157  1.00 46.01
ATOM   1870  CD1 TRP 1114      54.488  -1.378  11.814  1.00 45.33
ATOM   1871  NE1 TRP 1114      55.601  -1.273  11.016  1.00 45.59
ATOM   1872  CZ2 TRP 1114      57.488  -2.827  10.426  1.00 46.87
ATOM   1873  CZ3 TRP 1114      57.284  -4.990  11.523  1.00 46.92
ATOM   1874  CH2 TRP 1114      57.966  -4.095  10.665  1.00 47.25
ATOM   1875  C   TRP 1114      51.449  -2.729  14.854  1.00 37.03
ATOM   1876  O   TRP 1114      51.692  -3.114  16.003  1.00 36.42
ATOM   1877  N   TYR 1115      50.257  -2.851  14.271  1.00 35.04
ATOM   1878  CA  TYR 1115      49.123  -3.444  14.963  1.00 33.88
ATOM   1879  CB  TYR 1115      47.893  -2.536  14.906  1.00 34.58
ATOM   1880  CG  TYR 1115      48.052  -1.172  15.530  1.00 35.50
ATOM   1881  CD1 TYR 1115      48.688  -0.138  14.843  1.00 35.22
ATOM   1882  CE1 TYR 1115      48.803   1.121  15.403  1.00 35.65
ATOM   1883  CD2 TYR 1115      47.539  -0.906  16.804  1.00 35.62
ATOM   1884  CE2 TYR 1115      47.651   0.353  17.374  1.00 35.20
ATOM   1885  CZ  TYR 1115      48.281   1.360  16.669  1.00 35.90
ATOM   1886  OH  TYR 1115      48.394   2.612  17.226  1.00 37.37
ATOM   1887  C   TYR 1115      48.696  -4.772  14.391  1.00 33.69
ATOM   1888  O   TYR 1115      48.922  -5.068  13.218  1.00 34.06
ATOM   1889  N   VAL 1116      48.062  -5.575  15.234  1.00 33.42
ATOM   1890  CA  VAL 1116      47.532  -6.849  14.793  1.00 33.12
ATOM   1891  CB  VAL 1116      47.054  -7.695  15.990  1.00 33.51
ATOM   1892  CG1 VAL 1116      46.150  -8.821  15.511  1.00 33.27
ATOM   1893  CG2 VAL 1116      48.261  -8.261  16.731  1.00 33.38
ATOM   1894  C   VAL 1116      46.341  -6.409  13.960  1.00 33.39
ATOM   1895  O   VAL 1116      45.609  -5.513  14.367  1.00 33.92
ATOM   1896  N   ALA 1117      46.145  -7.011  12.792  1.00 34.03
ATOM   1897  CA  ALA 1117      45.029  -6.610  11.941  1.00 33.77
ATOM   1898  CB  ALA 1117      45.385  -5.340  11.204  1.00 32.85
ATOM   1899  C   ALA 1117      44.589  -7.666  10.941  1.00 34.98
ATOM   1900  O   ALA 1117      45.370  -8.534  10.557  1.00 35.51
ATOM   1901  N   LEU 1118      43.327  -7.583  10.525  1.00 36.34
ATOM   1902  CA  LEU 1118      42.766  -8.502   9.539  1.00 37.72
ATOM   1903  CB  LEU 1118      41.626  -9.326  10.129  1.00 37.37
ATOM   1904  CG  LEU 1118      41.895 -10.231  11.327  1.00 37.62
ATOM   1905  CD1 LEU 1118      40.633 -11.057  11.572  1.00 37.99
ATOM   1906  CD2 LEU 1118      43.094 -11.142  11.073  1.00 37.31
ATOM   1907  C   LEU 1118      42.218  -7.693   8.373  1.00 39.42
ATOM   1908  O   LEU 1118      41.644  -6.621   8.580  1.00 39.97
ATOM   1909  N   LYS 1119      42.397  -8.202   7.152  1.00 41.10
ATOM   1910  CA  LYS 1119      41.897  -7.530   5.955  1.00 42.60
ATOM   1911  CB  LYS 1119      42.641  -7.988   4.707  1.00 43.98
ATOM   1912  CG  LYS 1119      44.155  -7.954   4.768  1.00 46.36
ATOM   1913  CD  LYS 1119      44.728  -8.548   3.474  1.00 48.39
ATOM   1914  CE  LYS 1119      44.032  -9.891   3.145  1.00 50.47
ATOM   1915  NZ  LYS 1119      44.456 -10.585   1.870  1.00 51.28
ATOM   1916  C   LYS 1119      40.435  -7.911   5.788  1.00 43.59
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ATOM	1917	O	LYS	1119	39.939	-8.816	6.461	1.00	43.21
ATOM	1918	N	ARG	1120	39.747	-7.240	4.872	1.00	44.93
ATOM	1919	CA	ARG	1120	38.341	-7.542	4.662	1.00	46.92
ATOM	1920	CB	ARG	1120	37.691	-6.438	3.821	1.00	48.95
ATOM	1921	CG	ARG	1120	36.178	-6.395	3.938	1.00	51.51
ATOM	1922	CD	ARG	1120	35.664	-4.995	3.676	1.00	54.28
ATOM	1923	NE	ARG	1120	34.208	-4.946	3.522	1.00	57.28
ATOM	1924	CZ	ARG	1120	33.534	-5.519	2.522	1.00	58.66
ATOM	1925	NH1	ARG	1120	34.174	-6.201	1.578	1.00	59.34
ATOM	1926	NH2	ARG	1120	32.215	-5.391	2.448	1.00	59.25
ATOM	1927	C	ARG	1120	38.157	-8.924	4.021	1.00	47.06
ATOM	1928	O	ARG	1120	37.036	-9.432	3.923	1.00	47.19
ATOM	1929	N	THR	1121	39.267	-9.539	3.617	1.00	46.62
ATOM	1930	CA	THR	1121	39.243	-10.866	3.000	1.00	46.46
ATOM	1931	CB	THR	1121	40.454	-11.063	2.080	1.00	47.24
ATOM	1932	OG1	THR	1121	41.620	-11.309	2.880	1.00	46.73
ATOM	1933	CG2	THR	1121	40.687	-9.817	1.223	1.00	47.30
ATOM	1934	C	THR	1121	39.298	-11.974	4.052	1.00	46.56
ATOM	1935	O	THR	1121	39.097	-13.151	3.738	1.00	46.77
ATOM	1936	N	GLY	1122	39.584	-11.598	5.296	1.00	46.47
ATOM	1937	CA	GLY	1122	39.688	-12.583	6.356	1.00	46.18
ATOM	1938	C	GLY	1122	41.136	-13.008	6.555	1.00	46.40
ATOM	1939	O	GLY	1122	41.441	-13.817	7.431	1.00	46.65
ATOM	1940	N	GLN	1123	42.031	-12.476	5.728	1.00	46.45
ATOM	1941	CA	GLN	1123	43.446	-12.800	5.843	1.00	46.44
ATOM	1942	CB	GLN	1123	44.118	-12.827	4.464	1.00	47.74
ATOM	1943	CG	GLN	1123	43.488	-13.815	3.472	1.00	49.49
ATOM	1944	CD	GLN	1123	43.315	-15.217	4.052	1.00	50.46
ATOM	1945	OE1	GLN	1123	44.280	-15.835	4.511	1.00	50.51
ATOM	1946	NE2	GLN	1123	42.078	-15.725	4.031	1.00	51.06
ATOM	1947	C	GLN	1123	44.045	-11.712	6.711	1.00	46.16
ATOM	1948	O	GLN	1123	43.580	-10.572	6.686	1.00	46.45
ATOM	1949	N	TYR	1124	45.060	-12.056	7.494	1.00	45.59
ATOM	1950	CA	TYR	1124	45.663	-11.065	8.368	1.00	45.15
ATOM	1951	CB	TYR	1124	46.702	-11.713	9.286	1.00	46.41
ATOM	1952	CG	TYR	1124	48.008	-12.092	8.623	1.00	47.85
ATOM	1953	CD1	TYR	1124	49.017	-11.149	8.430	1.00	48.14
ATOM	1954	CE1	TYR	1124	50.247	-11.516	7.882	1.00	49.56
ATOM	1955	CD2	TYR	1124	48.256	-13.412	8.240	1.00	48.31
ATOM	1956	CE2	TYR	1124	49.478	-13.787	7.692	1.00	49.06
ATOM	1957	CZ	TYR	1124	50.469	-12.839	7.518	1.00	49.67
ATOM	1958	OH	TYR	1124	51.686	-13.222	6.999	1.00	50.27
ATOM	1959	C	TYR	1124	46.303	-10.000	7.507	1.00	44.57
ATOM	1960	O	TYR	1124	46.589	-10.238	6.339	1.00	44.10
ATOM	1961	N	LYS	1125	46.521	-8.828	8.089	1.00	44.03
ATOM	1962	CA	LYS	1125	47.121	-7.709	7.379	1.00	44.18
ATOM	1963	CB	LYS	1125	46.228	-6.479	7.559	1.00	44.86
ATOM	1964	CG	LYS	1125	46.718	-5.207	6.917	1.00	45.01
ATOM	1965	CD	LYS	1125	45.663	-4.127	7.069	1.00	45.88
ATOM	1966	CE	LYS	1125	46.028	-2.868	6.303	1.00	46.72
ATOM	1967	NZ	LYS	1125	44.874	-1.924	6.238	1.00	47.66
ATOM	1968	C	LYS	1125	48.505	-7.444	7.955	1.00	44.32
ATOM	1969	O	LYS	1125	48.649	-7.340	9.171	1.00	44.58
ATOM	1970	N	LEU	1126	49.520	-7.345	7.093	1.00	44.53
ATOM	1971	CA	LEU	1126	50.887	-7.083	7.553	1.00	44.49
ATOM	1972	CB	LEU	1126	51.827	-6.787	6.377	1.00	45.65
ATOM	1973	CG	LEU	1126	52.291	-7.883	5.414	1.00	46.87
ATOM	1974	CD1	LEU	1126	53.446	-7.318	4.596	1.00	46.95
ATOM	1975	CD2	LEU	1126	52.756	-9.133	6.174	1.00	47.73
ATOM	1976	C	LEU	1126	50.936	-5.898	8.515	1.00	44.52
ATOM	1977	O	LEU	1126	50.411	-4.818	8.223	1.00	44.23
ATOM	1978	N	GLY	1127	51.577	-6.102	9.661	1.00	44.10

ATOM	1979	CA	GLY	1127	51.673	-5.037	10.635	1.00	43.79
ATOM	1980	C	GLY	1127	52.362	-3.830	10.038	1.00	43.95
ATOM	1981	O	GLY	1127	52.069	-2.688	10.398	1.00	43.61
ATOM	1982	N	SER	1128	53.280	-4.082	9.113	1.00	44.15
ATOM	1983	CA	SER	1128	54.020	-2.999	8.481	1.00	44.72
ATOM	1984	CB	SER	1128	55.135	-3.566	7.602	1.00	45.14
ATOM	1985	OG	SER	1128	54.630	-4.527	6.687	1.00	47.68
ATOM	1986	C	SER	1128	53.097	-2.113	7.657	1.00	44.66
ATOM	1987	O	SER	1128	53.444	-0.984	7.315	1.00	44.45
ATOM	1988	N	LYS	1129	51.912	-2.624	7.348	1.00	44.99
ATOM	1989	CA	LYS	1129	50.953	-1.857	6.563	1.00	45.55
ATOM	1990	CB	LYS	1129	50.362	-2.717	5.441	1.00	46.76
ATOM	1991	CG	LYS	1129	51.347	-3.216	4.388	1.00	48.35
ATOM	1992	CD	LYS	1129	50.640	-3.393	3.035	1.00	49.78
ATOM	1993	CE	LYS	1129	49.301	-4.129	3.181	1.00	50.24
ATOM	1994	NZ	LYS	1129	48.417	-3.998	1.975	1.00	50.92
ATOM	1995	C	LYS	1129	49.803	-1.294	7.407	1.00	45.61
ATOM	1996	O	LYS	1129	48.876	-0.686	6.868	1.00	45.44
ATOM	1997	N	THR	1130	49.852	-1.496	8.722	1.00	45.29
ATOM	1998	CA	THR	1130	48.790	-0.991	9.584	1.00	45.00
ATOM	1999	CB	THR	1130	48.584	-1.882	10.834	1.00	45.68
ATOM	2000	OG1	THR	1130	49.787	-1.911	11.610	1.00	47.25
ATOM	2001	CG2	THR	1130	48.206	-3.296	10.432	1.00	46.09
ATOM	2002	C	THR	1130	49.054	0.441	10.045	1.00	44.72
ATOM	2003	O	THR	1130	50.152	0.973	9.879	1.00	44.85
ATOM	2004	N	GLY	1131	48.026	1.058	10.616	1.00	44.36
ATOM	2005	CA	GLY	1131	48.135	2.422	11.106	1.00	43.93
ATOM	2006	C	GLY	1131	46.985	2.730	12.056	1.00	43.49
ATOM	2007	O	GLY	1131	45.998	1.986	12.085	1.00	43.28
ATOM	2008	N	PRO	1132	47.070	3.818	12.835	1.00	43.11
ATOM	2009	CD	PRO	1132	48.214	4.738	12.882	1.00	43.31
ATOM	2010	CA	PRO	1132	46.041	4.229	13.798	1.00	42.83
ATOM	2011	CB	PRO	1132	46.624	5.493	14.414	1.00	43.23
ATOM	2012	CG	PRO	1132	48.091	5.299	14.270	1.00	43.89
ATOM	2013	C	PRO	1132	44.655	4.489	13.207	1.00	42.75
ATOM	2014	O	PRO	1132	43.638	4.168	13.827	1.00	43.21
ATOM	2015	N	GLY	1133	44.611	5.072	12.015	1.00	41.86
ATOM	2016	CA	GLY	1133	43.332	5.367	11.401	1.00	40.78
ATOM	2017	C	GLY	1133	42.739	4.262	10.553	1.00	40.15
ATOM	2018	O	GLY	1133	41.987	4.540	9.621	1.00	40.24
ATOM	2019	N	GLN	1134	43.054	3.010	10.865	1.00	39.47
ATOM	2020	CA	GLN	1134	42.521	1.911	10.074	1.00	38.97
ATOM	2021	CB	GLN	1134	43.661	1.042	9.565	1.00	39.15
ATOM	2022	CG	GLN	1134	44.686	1.828	8.789	1.00	39.46
ATOM	2023	CD	GLN	1134	45.843	0.972	8.324	1.00	40.54
ATOM	2024	OE1	GLN	1134	46.925	1.485	8.043	1.00	41.92
ATOM	2025	NE2	GLN	1134	45.622	-0.337	8.232	1.00	39.45
ATOM	2026	C	GLN	1134	41.503	1.063	10.818	1.00	38.40
ATOM	2027	O	GLN	1134	41.618	0.823	12.015	1.00	38.95
ATOM	2028	N	LYS	1135	40.499	0.622	10.080	1.00	37.75
ATOM	2029	CA	LYS	1135	39.421	-0.202	10.600	1.00	37.02
ATOM	2030	CB	LYS	1135	38.305	-0.194	9.555	1.00	37.54
ATOM	2031	CG	LYS	1135	37.062	-0.998	9.839	1.00	39.30
ATOM	2032	CD	LYS	1135	36.083	-0.706	8.710	1.00	41.83
ATOM	2033	CE	LYS	1135	34.860	-1.603	8.713	1.00	43.72
ATOM	2034	NZ	LYS	1135	34.058	-1.383	7.461	1.00	45.66
ATOM	2035	C	LYS	1135	39.915	-1.628	10.880	1.00	36.31
ATOM	2036	O	LYS	1135	39.358	-2.342	11.720	1.00	36.44
ATOM	2037	N	ALA	1136	40.983	-2.020	10.190	1.00	35.08
ATOM	2038	CA	ALA	1136	41.558	-3.356	10.327	1.00	34.39
ATOM	2039	CB	ALA	1136	42.559	-3.592	9.214	1.00	33.92
ATOM	2040	C	ALA	1136	42.212	-3.679	11.674	1.00	33.83

ATOM	2041	O	ALA	1136	42.343	-4.856	12.033	1.00	33.83
ATOM	2042	N	ILE	1137	42.613	-2.654	12.423	1.00	32.81
ATOM	2043	CA	ILE	1137	43.272	-2.888	13.704	1.00	31.57
ATOM	2044	CB	ILE	1137	44.350	-1.824	13.973	1.00	30.44
ATOM	2045	CG2	ILE	1137	45.144	-1.561	12.709	1.00	30.36
ATOM	2046	CG1	ILE	1137	43.702	-0.522	14.419	1.00	29.95
ATOM	2047	CD1	ILE	1137	44.701	0.554	14.724	1.00	30.69
ATOM	2048	C	ILE	1137	42.322	-2.922	14.903	1.00	31.51
ATOM	2049	O	ILE	1137	42.739	-3.243	16.017	1.00	31.37
ATOM	2050	N	LEU	1138	41.049	-2.619	14.667	1.00	30.82
ATOM	2051	CA	LEU	1138	40.058	-2.578	15.740	1.00	30.71
ATOM	2052	CB	LEU	1138	38.995	-1.531	15.416	1.00	29.07
ATOM	2053	CG	LEU	1138	39.546	-0.134	15.134	1.00	28.60
ATOM	2054	CD1	LEU	1138	38.432	0.782	14.630	1.00	28.90
ATOM	2055	CD2	LEU	1138	40.174	0.414	16.396	1.00	27.48
ATOM	2056	C	LEU	1138	39.376	-3.914	16.033	1.00	31.25
ATOM	2057	O	LEU	1138	38.825	-4.563	15.136	1.00	31.68
ATOM	2058	N	PHE	1139	39.401	-4.317	17.297	1.00	31.00
ATOM	2059	CA	PHE	1139	38.777	-5.571	17.685	1.00	31.56
ATOM	2060	CB	PHE	1139	39.830	-6.614	18.066	1.00	32.81
ATOM	2061	CG	PHE	1139	40.504	-7.257	16.892	1.00	33.16
ATOM	2062	CD1	PHE	1139	41.662	-6.710	16.352	1.00	33.19
ATOM	2063	CD2	PHE	1139	39.972	-8.412	16.323	1.00	33.35
ATOM	2064	CE1	PHE	1139	42.279	-7.303	15.266	1.00	32.98
ATOM	2065	CE2	PHE	1139	40.580	-9.010	15.239	1.00	32.93
ATOM	2066	CZ	PHE	1139	41.733	-8.458	14.709	1.00	32.99
ATOM	2067	C	PHE	1139	37.832	-5.406	18.852	1.00	32.09
ATOM	2068	O	PHE	1139	38.091	-4.644	19.792	1.00	33.11
ATOM	2069	N	LEU	1140	36.736	-6.142	18.801	1.00	31.92
ATOM	2070	CA	LEU	1140	35.754	-6.094	19.856	1.00	32.57
ATOM	2071	CB	LEU	1140	34.372	-5.949	19.241	1.00	32.54
ATOM	2072	CG	LEU	1140	33.319	-5.229	20.066	1.00	33.21
ATOM	2073	CD1	LEU	1140	33.680	-3.751	20.191	1.00	33.57
ATOM	2074	CD2	LEU	1140	31.977	-5.382	19.389	1.00	33.32
ATOM	2075	C	LEU	1140	35.861	-7.414	20.611	1.00	33.95
ATOM	2076	O	LEU	1140	35.593	-8.473	20.059	1.00	34.36
ATOM	2077	N	PRO	1141	36.280	-7.370	21.883	1.00	35.11
ATOM	2078	CD	PRO	1141	36.668	-6.195	22.685	1.00	35.49
ATOM	2079	CA	PRO	1141	36.405	-8.601	22.665	1.00	35.94
ATOM	2080	CB	PRO	1141	37.214	-8.149	23.868	1.00	35.97
ATOM	2081	CG	PRO	1141	36.686	-6.755	24.088	1.00	35.79
ATOM	2082	C	PRO	1141	35.044	-9.129	23.067	1.00	37.21
ATOM	2083	O	PRO	1141	34.199	-8.378	23.543	1.00	37.10
ATOM	2084	N	MET	1142	34.834	-10.423	22.877	1.00	39.44
ATOM	2085	CA	MET	1142	33.566	-11.057	23.229	1.00	42.27
ATOM	2086	CB	MET	1142	32.776	-11.425	21.972	1.00	43.78
ATOM	2087	CG	MET	1142	32.314	-10.250	21.143	1.00	46.23
ATOM	2088	SD	MET	1142	31.492	-10.845	19.646	1.00	49.73
ATOM	2089	CE	MET	1142	30.201	-11.895	20.358	1.00	48.43
ATOM	2090	C	MET	1142	33.854	-12.326	24.000	1.00	43.25
ATOM	2091	O	MET	1142	34.843	-13.001	23.735	1.00	43.02
ATOM	2092	N	SER	1143	32.986	-12.655	24.945	1.00	45.28
ATOM	2093	CA	SER	1143	33.166	-13.860	25.734	1.00	48.37
ATOM	2094	CB	SER	1143	32.039	-14.010	26.741	1.00	49.05
ATOM	2095	OG	SER	1143	30.921	-14.630	26.123	1.00	49.26
ATOM	2096	C	SER	1143	33.102	-15.052	24.794	1.00	50.26
ATOM	2097	O	SER	1143	32.467	-14.987	23.739	1.00	50.30
ATOM	2098	N	ALA	1144	33.747	-16.147	25.179	1.00	52.07
ATOM	2099	CA	ALA	1144	33.726	-17.349	24.359	1.00	53.48
ATOM	2100	CB	ALA	1144	35.137	-17.906	24.202	1.00	53.76
ATOM	2101	C	ALA	1144	32.814	-18.381	25.014	1.00	54.18
ATOM	2102	O	ALA	1144	33.236	-18.949	26.041	1.00	55.60

ATOM	2103	CB	HIS	2016	30.611	-12.909	53.520	1.00	49.61
ATOM	2104	CG	HIS	2016	29.696	-13.189	52.371	1.00	52.30
ATOM	2105	CD2	HIS	2016	29.946	-13.660	51.126	1.00	53.70
ATOM	2106	ND1	HIS	2016	28.342	-12.933	52.420	1.00	53.21
ATOM	2107	CE1	HIS	2016	27.798	-13.229	51.253	1.00	53.98
ATOM	2108	NE2	HIS	2016	28.749	-13.672	50.450	1.00	54.80
ATOM	2109	C	HIS	2016	29.064	-11.546	54.916	1.00	45.96
ATOM	2110	O	HIS	2016	28.823	-12.431	55.739	1.00	45.54
ATOM	2111	N	HIS	2016	31.520	-11.187	55.057	1.00	46.88
ATOM	2112	CA	HIS	2016	30.387	-11.534	54.151	1.00	47.29
ATOM	2113	N	PHE	2017	28.211	-10.569	54.627	1.00	44.46
ATOM	2114	CA	PHE	2017	26.924	-10.430	55.296	1.00	43.76
ATOM	2115	CB	PHE	2017	26.086	-9.384	54.559	1.00	42.17
ATOM	2116	CG	PHE	2017	25.565	-9.860	53.242	1.00	41.19
ATOM	2117	CD1	PHE	2017	24.281	-10.383	53.138	1.00	40.67
ATOM	2118	CD2	PHE	2017	26.367	-9.824	52.112	1.00	40.83
ATOM	2119	CE1	PHE	2017	23.802	-10.867	51.928	1.00	40.69
ATOM	2120	CE2	PHE	2017	25.898	-10.306	50.893	1.00	41.19
ATOM	2121	CZ	PHE	2017	24.610	-10.831	50.801	1.00	40.82
ATOM	2122	C	PHE	2017	26.140	-11.748	55.417	1.00	43.77
ATOM	2123	O	PHE	2017	25.388	-11.941	56.381	1.00	43.74
ATOM	2124	N	LYS	2018	26.317	-12.654	54.453	1.00	43.45
ATOM	2125	CA	LYS	2018	25.605	-13.934	54.477	1.00	43.23
ATOM	2126	CB	LYS	2018	25.793	-14.689	53.157	1.00	43.20
ATOM	2127	C	LYS	2018	26.025	-14.837	55.634	1.00	43.00
ATOM	2128	O	LYS	2018	25.197	-15.563	56.182	1.00	43.52
ATOM	2129	N	ASP	2019	27.302	-14.783	56.006	1.00	42.35
ATOM	2130	CA	ASP	2019	27.822	-15.613	57.081	1.00	41.21
ATOM	2131	CB	ASP	2019	29.348	-15.517	57.131	1.00	42.88
ATOM	2132	CG	ASP	2019	30.006	-15.924	55.819	1.00	44.66
ATOM	2133	OD1	ASP	2019	29.463	-16.807	55.107	1.00	45.47
ATOM	2134	OD2	ASP	2019	31.080	-15.368	55.506	1.00	45.66
ATOM	2135	C	ASP	2019	27.236	-15.268	58.443	1.00	40.14
ATOM	2136	O	ASP	2019	26.659	-14.194	58.636	1.00	39.64
ATOM	2137	N	PRO	2020	27.359	-16.197	59.408	1.00	39.24
ATOM	2138	CD	PRO	2020	27.900	-17.555	59.242	1.00	38.60
ATOM	2139	CA	PRO	2020	26.848	-16.006	60.769	1.00	37.92
ATOM	2140	CB	PRO	2020	26.930	-17.406	61.380	1.00	37.81
ATOM	2141	CG	PRO	2020	27.044	-18.325	60.180	1.00	38.70
ATOM	2142	C	PRO	2020	27.761	-15.029	61.494	1.00	36.76
ATOM	2143	O	PRO	2020	28.916	-14.851	61.109	1.00	36.56
ATOM	2144	N	LYS	2021	27.251	-14.406	62.542	1.00	35.46
ATOM	2145	CA	LYS	2021	28.049	-13.462	63.292	1.00	35.36
ATOM	2146	CB	LYS	2021	27.651	-12.026	62.938	1.00	36.14
ATOM	2147	CG	LYS	2021	27.749	-11.680	61.481	1.00	37.36
ATOM	2148	CD	LYS	2021	27.412	-10.220	61.259	1.00	38.89
ATOM	2149	CE	LYS	2021	27.502	-9.864	59.778	1.00	40.69
ATOM	2150	NZ	LYS	2021	27.147	-8.439	59.506	1.00	41.77
ATOM	2151	C	LYS	2021	27.847	-13.659	64.779	1.00	34.94
ATOM	2152	O	LYS	2021	26.868	-14.274	65.208	1.00	33.96
ATOM	2153	N	ARG	2022	28.797	-13.154	65.562	1.00	34.36
ATOM	2154	CA	ARG	2022	28.678	-13.198	67.016	1.00	33.66
ATOM	2155	CB	ARG	2022	29.947	-13.709	67.699	1.00	34.43
ATOM	2156	CG	ARG	2022	30.477	-15.049	67.231	1.00	36.74
ATOM	2157	CD	ARG	2022	31.768	-15.333	67.986	1.00	39.41
ATOM	2158	NE	ARG	2022	32.738	-16.138	67.243	1.00	42.21
ATOM	2159	CZ	ARG	2022	32.607	-17.436	66.987	1.00	43.42
ATOM	2160	NH1	ARG	2022	31.534	-18.103	67.406	1.00	44.07
ATOM	2161	NH2	ARG	2022	33.572	-18.076	66.340	1.00	43.95
ATOM	2162	C	ARG	2022	28.470	-11.734	67.401	1.00	32.41
ATOM	2163	O	ARG	2022	29.052	-10.831	66.795	1.00	31.75
ATOM	2164	N	LEU	2023	27.618	-11.491	68.382	1.00	31.14

ATOM	2165	CA	LEU	2023	27.394	-10.132	68.824	1.00	30.16
ATOM	2166	CB	LEU	2023	25.903	-9.797	68.835	1.00	29.73
ATOM	2167	CG	LEU	2023	25.329	-9.759	67.409	1.00	30.46
ATOM	2168	CD1	LEU	2023	23.839	-9.475	67.446	1.00	29.76
ATOM	2169	CD2	LEU	2023	26.067	-8.694	66.579	1.00	29.94
ATOM	2170	C	LEU	2023	28.014	-9.962	70.194	1.00	29.98
ATOM	2171	O	LEU	2023	27.520	-10.476	71.198	1.00	29.93
ATOM	2172	N	TYR	2024	29.134	-9.251	70.199	1.00	29.87
ATOM	2173	CA	TYR	2024	29.909	-8.977	71.398	1.00	30.34
ATOM	2174	CB	TYR	2024	31.378	-8.856	70.987	1.00	30.88
ATOM	2175	CG	TYR	2024	32.357	-8.439	72.054	1.00	31.94
ATOM	2176	CD1	TYR	2024	32.447	-7.109	72.472	1.00	31.98
ATOM	2177	CE1	TYR	2024	33.417	-6.714	73.385	1.00	31.90
ATOM	2178	CD2	TYR	2024	33.256	-9.359	72.589	1.00	31.81
ATOM	2179	CE2	TYR	2024	34.218	-8.972	73.498	1.00	31.40
ATOM	2180	CZ	TYR	2024	34.297	-7.655	73.887	1.00	31.83
ATOM	2181	OH	TYR	2024	35.277	-7.281	74.771	1.00	32.59
ATOM	2182	C	TYR	2024	29.386	-7.697	72.038	1.00	30.32
ATOM	2183	O	TYR	2024	29.433	-6.632	71.441	1.00	31.34
ATOM	2184	N	CYS	2025	28.871	-7.816	73.253	1.00	30.54
ATOM	2185	CA	CYS	2025	28.327	-6.682	73.963	1.00	30.56
ATOM	2186	CB	CYS	2025	27.377	-7.163	75.037	1.00	30.66
ATOM	2187	SG	CYS	2025	26.531	-5.801	75.813	1.00	32.95
ATOM	2188	C	CYS	2025	29.417	-5.847	74.603	1.00	31.07
ATOM	2189	O	CYS	2025	30.300	-6.380	75.274	1.00	31.19
ATOM	2190	N	LYS	2026	29.347	-4.532	74.414	1.00	31.54
ATOM	2191	CA	LYS	2026	30.354	-3.638	74.979	1.00	31.91
ATOM	2192	CB	LYS	2026	30.147	-2.216	74.465	1.00	30.14
ATOM	2193	CG	LYS	2026	31.273	-1.256	74.794	1.00	28.90
ATOM	2194	CD	LYS	2026	31.025	0.107	74.149	1.00	27.04
ATOM	2195	CE	LYS	2026	32.193	1.058	74.354	1.00	26.12
ATOM	2196	NZ	LYS	2026	32.269	1.603	75.735	1.00	27.32
ATOM	2197	C	LYS	2026	30.302	-3.653	76.504	1.00	33.45
ATOM	2198	O	LYS	2026	31.294	-3.375	77.174	1.00	33.52
ATOM	2199	N	ASN	2027	29.145	-4.006	77.049	1.00	34.56
ATOM	2200	CA	ASN	2027	28.966	-4.038	78.490	1.00	35.65
ATOM	2201	CB	ASN	2027	27.493	-3.774	78.799	1.00	36.90
ATOM	2202	CG	ASN	2027	27.222	-3.626	80.275	1.00	38.46
ATOM	2203	OD1	ASN	2027	27.992	-2.994	81.004	1.00	39.90
ATOM	2204	ND2	ASN	2027	26.108	-4.193	80.725	1.00	38.80
ATOM	2205	C	ASN	2027	29.433	-5.350	79.132	1.00	36.07
ATOM	2206	O	ASN	2027	28.626	-6.235	79.422	1.00	37.21
ATOM	2207	N	GLY	2028	30.740	-5.481	79.338	1.00	35.53
ATOM	2208	CA	GLY	2028	31.257	-6.681	79.961	1.00	34.90
ATOM	2209	C	GLY	2028	31.912	-7.658	79.008	1.00	35.77
ATOM	2210	O	GLY	2028	32.597	-8.581	79.440	1.00	36.15
ATOM	2211	N	GLY	2029	31.705	-7.469	77.711	1.00	35.59
ATOM	2212	CA	GLY	2029	32.306	-8.367	76.745	1.00	35.25
ATOM	2213	C	GLY	2029	31.611	-9.715	76.629	1.00	35.54
ATOM	2214	O	GLY	2029	32.254	-10.732	76.336	1.00	35.83
ATOM	2215	N	PHE	2030	30.301	-9.731	76.861	1.00	34.61
ATOM	2216	CA	PHE	2030	29.523	-10.955	76.764	1.00	34.19
ATOM	2217	CB	PHE	2030	28.398	-10.951	77.798	1.00	34.27
ATOM	2218	CG	PHE	2030	28.875	-11.031	79.214	1.00	35.00
ATOM	2219	CD1	PHE	2030	29.170	-9.878	79.933	1.00	35.78
ATOM	2220	CD2	PHE	2030	29.047	-12.264	79.831	1.00	34.75
ATOM	2221	CE1	PHE	2030	29.633	-9.959	81.250	1.00	35.19
ATOM	2222	CE2	PHE	2030	29.510	-12.349	81.145	1.00	34.33
ATOM	2223	CZ	PHE	2030	29.801	-11.197	81.851	1.00	34.60
ATOM	2224	C	PHE	2030	28.908	-11.097	75.370	1.00	33.93
ATOM	2225	O	PHE	2030	28.359	-10.136	74.830	1.00	33.62
ATOM	2226	N	PHE	2031	29.007	-12.295	74.801	1.00	32.96

ATOM	2227	CA	PHE	2031	28.435	-12.591	73.489	1.00	32.61
ATOM	2228	CB	PHE	2031	29.122	-13.804	72.866	1.00	30.62
ATOM	2229	CG	PHE	2031	30.474	-13.514	72.317	1.00	28.88
ATOM	2230	CD1	PHE	2031	30.614	-12.801	71.139	1.00	28.57
ATOM	2231	CD2	PHE	2031	31.616	-13.947	72.981	1.00	28.17
ATOM	2232	CE1	PHE	2031	31.878	-12.525	70.624	1.00	28.68
ATOM	2233	CE2	PHE	2031	32.884	-13.676	72.475	1.00	27.81
ATOM	2234	CZ	PHE	2031	33.017	-12.966	71.297	1.00	27.69
ATOM	2235	C	PHE	2031	26.970	-12.926	73.677	1.00	32.61
ATOM	2236	O	PHE	2031	26.625	-13.639	74.610	1.00	33.68
ATOM	2237	N	LEU	2032	26.111	-12.413	72.807	1.00	32.82
ATOM	2238	CA	LEU	2032	24.694	-12.712	72.924	1.00	32.89
ATOM	2239	CB	LEU	2032	23.881	-11.873	71.937	1.00	30.95
ATOM	2240	CG	LEU	2032	22.373	-12.077	72.055	1.00	30.07
ATOM	2241	CD1	LEU	2032	21.924	-11.664	73.444	1.00	29.16
ATOM	2242	CD2	LEU	2032	21.652	-11.278	70.990	1.00	28.97
ATOM	2243	C	LEU	2032	24.514	-14.203	72.633	1.00	33.63
ATOM	2244	O	LEU	2032	24.999	-14.718	71.618	1.00	33.71
ATOM	2245	N	ARG	2033	23.835	-14.903	73.536	1.00	34.59
ATOM	2246	CA	ARG	2033	23.618	-16.329	73.362	1.00	35.19
ATOM	2247	CB	ARG	2033	24.372	-17.111	74.421	1.00	34.72
ATOM	2248	CG	ARG	2033	24.274	-18.618	74.244	1.00	33.31
ATOM	2249	CD	ARG	2033	25.141	-19.334	75.257	1.00	31.04
ATOM	2250	NE	ARG	2033	24.681	-19.100	76.616	1.00	29.30
ATOM	2251	CZ	ARG	2033	25.231	-19.668	77.681	1.00	29.82
ATOM	2252	NH1	ARG	2033	26.257	-20.493	77.521	1.00	29.55
ATOM	2253	NH2	ARG	2033	24.761	-19.417	78.897	1.00	29.44
ATOM	2254	C	ARG	2033	22.164	-16.762	73.375	1.00	36.20
ATOM	2255	O	ARG	2033	21.380	-16.371	74.246	1.00	36.24
ATOM	2256	N	ILE	2034	21.815	-17.572	72.385	1.00	37.13
ATOM	2257	CA	ILE	2034	20.473	-18.098	72.266	1.00	38.70
ATOM	2258	CB	ILE	2034	19.895	-17.795	70.884	1.00	38.45
ATOM	2259	CG2	ILE	2034	18.493	-18.372	70.777	1.00	37.91
ATOM	2260	CG1	ILE	2034	19.891	-16.281	70.667	1.00	37.72
ATOM	2261	CD1	ILE	2034	19.396	-15.847	69.313	1.00	37.52
ATOM	2262	C	ILE	2034	20.544	-19.602	72.510	1.00	39.99
ATOM	2263	O	ILE	2034	21.110	-20.351	71.706	1.00	39.24
ATOM	2264	N	HIS	2035	19.993	-20.037	73.640	1.00	41.62
ATOM	2265	CA	HIS	2035	20.043	-21.450	73.953	1.00	43.67
ATOM	2266	CB	HIS	2035	20.042	-21.692	75.458	1.00	44.52
ATOM	2267	CG	HIS	2035	20.808	-22.915	75.857	1.00	45.32
ATOM	2268	CD2	HIS	2035	22.124	-23.092	76.131	1.00	45.43
ATOM	2269	ND1	HIS	2035	20.227	-24.166	75.944	1.00	45.72
ATOM	2270	CE1	HIS	2035	21.154	-25.054	76.253	1.00	45.87
ATOM	2271	NE2	HIS	2035	22.314	-24.432	76.372	1.00	44.96
ATOM	2272	C	HIS	2035	18.939	-22.240	73.282	1.00	44.91
ATOM	2273	O	HIS	2035	17.849	-21.720	73.002	1.00	44.68
ATOM	2274	N	PRO	2036	19.236	-23.508	72.956	1.00	46.21
ATOM	2275	CD	PRO	2036	20.598	-24.078	72.880	1.00	46.46
ATOM	2276	CA	PRO	2036	18.278	-24.396	72.305	1.00	47.15
ATOM	2277	CB	PRO	2036	18.994	-25.730	72.349	1.00	46.84
ATOM	2278	CG	PRO	2036	20.398	-25.309	72.016	1.00	46.49
ATOM	2279	C	PRO	2036	16.902	-24.422	72.959	1.00	48.40
ATOM	2280	O	PRO	2036	15.885	-24.565	72.272	1.00	48.57
ATOM	2281	N	ASP	2037	16.862	-24.256	74.278	1.00	49.58
ATOM	2282	CA	ASP	2037	15.591	-24.277	74.995	1.00	51.03
ATOM	2283	CB	ASP	2037	15.820	-24.763	76.426	1.00	52.08
ATOM	2284	CG	ASP	2037	16.492	-23.729	77.288	1.00	52.53
ATOM	2285	OD1	ASP	2037	15.777	-22.859	77.826	1.00	52.62
ATOM	2286	OD2	ASP	2037	17.734	-23.785	77.419	1.00	53.74
ATOM	2287	C	ASP	2037	14.840	-22.939	75.019	1.00	51.65
ATOM	2288	O	ASP	2037	13.784	-22.826	75.653	1.00	51.96

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ATOM   2289  N   GLY  2038      15.373 -21.925  74.341  1.00 51.93
ATOM   2290  CA  GLY  2038      14.697 -20.633  74.314  1.00 51.28
ATOM   2291  C   GLY  2038      15.226 -19.586  75.283  1.00 50.66
ATOM   2292  O   GLY  2038      14.718 -18.465  75.337  1.00 50.54
ATOM   2293  N   ARG  2039      16.246 -19.953  76.051  1.00 49.81
ATOM   2294  CA  ARG  2039      16.870 -19.053  77.016  1.00 49.30
ATOM   2295  CB  ARG  2039      17.567 -19.888  78.089  1.00 50.37
ATOM   2296  CG  ARG  2039      18.261 -19.100  79.195  1.00 52.28
ATOM   2297  CD  ARG  2039      19.172 -20.028  80.013  1.00 53.80
ATOM   2298  NE  ARG  2039      18.996 -21.422  79.609  1.00 55.19
ATOM   2299  CZ  ARG  2039      19.874 -22.399  79.828  1.00 55.99
ATOM   2300  NH1 ARG  2039      19.597 -23.634  79.412  1.00 55.66
ATOM   2301  NH2 ARG  2039      21.024 -22.149  80.457  1.00 55.06
ATOM   2302  C   ARG  2039      17.901 -18.136  76.337  1.00 48.32
ATOM   2303  O   ARG  2039      18.741 -18.599  75.561  1.00 48.18
ATOM   2304  N   VAL  2040      17.841 -16.843  76.646  1.00 46.76
ATOM   2305  CA  VAL  2040      18.750 -15.852  76.073  1.00 45.02
ATOM   2306  CB  VAL  2040      17.945 -14.753  75.332  1.00 44.80
ATOM   2307  CG1 VAL  2040      18.876 -13.701  74.769  1.00 44.89
ATOM   2308  CG2 VAL  2040      17.116 -15.368  74.222  1.00 45.45
ATOM   2309  C   VAL  2040      19.599 -15.177  77.159  1.00 44.01
ATOM   2310  O   VAL  2040      19.065 -14.634  78.122  1.00 43.37
ATOM   2311  N   ASP  2041      20.915 -15.214  77.001  1.00 42.82
ATOM   2312  CA  ASP  2041      21.825 -14.589  77.955  1.00 42.01
ATOM   2313  CB  ASP  2041      22.060 -15.505  79.165  1.00 41.22
ATOM   2314  CG  ASP  2041      22.701 -16.845  78.788  1.00 41.03
ATOM   2315  OD1 ASP  2041      22.959 -17.655  79.703  1.00 39.70
ATOM   2316  OD2 ASP  2041      22.944 -17.100  77.587  1.00 40.84
ATOM   2317  C   ASP  2041      23.153 -14.295  77.266  1.00 41.88
ATOM   2318  O   ASP  2041      23.240 -14.320  76.042  1.00 41.39
ATOM   2319  N   GLY  2042      24.188 -14.027  78.053  1.00 41.66
ATOM   2320  CA  GLY  2042      25.487 -13.749  77.474  1.00 41.26
ATOM   2321  C   GLY  2042      26.597 -14.582  78.082  1.00 41.38
ATOM   2322  O   GLY  2042      26.492 -15.042  79.216  1.00 41.29
ATOM   2323  N   VAL  2043      27.657 -14.793  77.312  1.00 41.06
ATOM   2324  CA  VAL  2043      28.809 -15.549  77.785  1.00 41.22
ATOM   2325  CB  VAL  2043      28.736 -17.056  77.425  1.00 40.97
ATOM   2326  CG1 VAL  2043      27.638 -17.723  78.210  1.00 41.41
ATOM   2327  CG2 VAL  2043      28.509 -17.232  75.945  1.00 40.78
ATOM   2328  C   VAL  2043      30.046 -14.966  77.147  1.00 41.51
ATOM   2329  O   VAL  2043      29.979 -14.392  76.066  1.00 41.82
ATOM   2330  N   ARG  2044      31.178 -15.123  77.817  1.00 41.88
ATOM   2331  CA  ARG  2044      32.435 -14.594  77.317  1.00 42.03
ATOM   2332  CB  ARG  2044      33.333 -14.193  78.479  1.00 40.02
ATOM   2333  CG  ARG  2044      32.804 -13.049  79.306  1.00 39.81
ATOM   2334  CD  ARG  2044      33.912 -12.503  80.177  1.00 39.56
ATOM   2335  NE  ARG  2044      33.585 -11.194  80.719  1.00 40.08
ATOM   2336  CZ  ARG  2044      33.180 -10.980  81.964  1.00 40.53
ATOM   2337  NH1 ARG  2044      33.053 -11.993  82.806  1.00 40.71
ATOM   2338  NH2 ARG  2044      32.899  -9.750  82.361  1.00 40.74
ATOM   2339  C   ARG  2044      33.198 -15.556  76.428  1.00 43.22
ATOM   2340  O   ARG  2044      33.965 -15.133  75.575  1.00 43.47
ATOM   2341  N   GLU  2045      32.990 -16.850  76.627  1.00 45.09
ATOM   2342  CA  GLU  2045      33.698 -17.855  75.848  1.00 46.93
ATOM   2343  CB  GLU  2045      33.418 -19.245  76.427  1.00 48.97
ATOM   2344  CG  GLU  2045      34.236 -20.359  75.784  1.00 53.16
ATOM   2345  CD  GLU  2045      34.293 -21.622  76.645  1.00 56.41
ATOM   2346  OE1 GLU  2045      33.213 -22.140  77.029  1.00 57.88
ATOM   2347  OE2 GLU  2045      35.422 -22.099  76.934  1.00 57.40
ATOM   2348  C   GLU  2045      33.342 -17.806  74.366  1.00 46.73
ATOM   2349  O   GLU  2045      32.239 -18.162  73.967  1.00 47.26
ATOM   2350  N   LYS  2046      34.300 -17.373  73.559  1.00 46.80
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ATOM	2351	CA	LYS	2046	34.135	-17.243	72.116	1.00	47.28
ATOM	2352	CB	LYS	2046	35.438	-16.690	71.525	1.00	47.56
ATOM	2353	CG	LYS	2046	35.419	-16.385	70.038	1.00	48.68
ATOM	2354	CD	LYS	2046	36.739	-15.746	69.598	1.00	50.33
ATOM	2355	CE	LYS	2046	36.754	-15.372	68.105	1.00	51.42
ATOM	2356	NZ	LYS	2046	36.885	-16.552	67.186	1.00	52.03
ATOM	2357	C	LYS	2046	33.768	-18.553	71.416	1.00	47.43
ATOM	2358	O	LYS	2046	33.174	-18.545	70.333	1.00	47.26
ATOM	2359	N	SER	2047	34.117	-19.674	72.040	1.00	47.72
ATOM	2360	CA	SER	2047	33.870	-20.992	71.463	1.00	47.53
ATOM	2361	CB	SER	2047	34.941	-21.977	71.938	1.00	48.08
ATOM	2362	OG	SER	2047	34.991	-22.027	73.352	1.00	48.74
ATOM	2363	C	SER	2047	32.497	-21.577	71.752	1.00	47.41
ATOM	2364	O	SER	2047	32.152	-22.641	71.234	1.00	47.44
ATOM	2365	N	ASP	2048	31.716	-20.900	72.584	1.00	46.97
ATOM	2366	CA	ASP	2048	30.380	-21.386	72.895	1.00	46.42
ATOM	2367	CB	ASP	2048	29.640	-20.361	73.748	1.00	46.81
ATOM	2368	CG	ASP	2048	28.385	-20.926	74.385	1.00	47.58
ATOM	2369	OD1	ASP	2048	28.432	-21.294	75.584	1.00	47.38
ATOM	2370	OD2	ASP	2048	27.355	-21.008	73.680	1.00	47.47
ATOM	2371	C	ASP	2048	29.648	-21.592	71.562	1.00	46.09
ATOM	2372	O	ASP	2048	29.691	-20.739	70.677	1.00	45.80
ATOM	2373	N	PRO	2049	28.966	-22.730	71.401	1.00	45.72
ATOM	2374	CD	PRO	2049	28.870	-23.861	72.340	1.00	44.97
ATOM	2375	CA	PRO	2049	28.243	-23.016	70.157	1.00	44.93
ATOM	2376	CB	PRO	2049	27.995	-24.512	70.258	1.00	45.13
ATOM	2377	CG	PRO	2049	27.757	-24.681	71.738	1.00	45.31
ATOM	2378	C	PRO	2049	26.943	-22.253	69.934	1.00	43.83
ATOM	2379	O	PRO	2049	26.490	-22.116	68.799	1.00	44.32
ATOM	2380	N	HIS	2050	26.350	-21.753	71.009	1.00	42.36
ATOM	2381	CA	HIS	2050	25.078	-21.052	70.909	1.00	41.48
ATOM	2382	CB	HIS	2050	24.216	-21.433	72.112	1.00	41.65
ATOM	2383	CG	HIS	2050	24.257	-22.897	72.438	1.00	43.12
ATOM	2384	CD2	HIS	2050	24.671	-23.553	73.550	1.00	42.95
ATOM	2385	ND1	HIS	2050	23.873	-23.873	71.543	1.00	43.47
ATOM	2386	CE1	HIS	2050	24.051	-25.065	72.088	1.00	42.38
ATOM	2387	NE2	HIS	2050	24.534	-24.898	73.306	1.00	41.45
ATOM	2388	C	HIS	2050	25.153	-19.528	70.766	1.00	40.56
ATOM	2389	O	HIS	2050	24.185	-18.829	71.070	1.00	39.83
ATOM	2390	N	ILE	2051	26.291	-19.012	70.304	1.00	39.16
ATOM	2391	CA	ILE	2051	26.429	-17.567	70.126	1.00	38.23
ATOM	2392	CB	ILE	2051	27.631	-16.990	70.912	1.00	37.53
ATOM	2393	CG2	ILE	2051	27.443	-17.236	72.399	1.00	36.56
ATOM	2394	CG1	ILE	2051	28.932	-17.613	70.415	1.00	37.16
ATOM	2395	CD1	ILE	2051	30.167	-17.024	71.044	1.00	36.90
ATOM	2396	C	ILE	2051	26.573	-17.204	68.652	1.00	37.95
ATOM	2397	O	ILE	2051	26.620	-16.026	68.299	1.00	37.78
ATOM	2398	N	LYS	2052	26.657	-18.222	67.797	1.00	37.55
ATOM	2399	CA	LYS	2052	26.746	-17.999	66.359	1.00	37.29
ATOM	2400	CB	LYS	2052	27.243	-19.251	65.636	1.00	38.07
ATOM	2401	CG	LYS	2052	28.761	-19.376	65.587	1.00	40.09
ATOM	2402	CD	LYS	2052	29.179	-20.828	65.382	1.00	42.80
ATOM	2403	CE	LYS	2052	30.691	-21.007	65.269	1.00	44.11
ATOM	2404	NZ	LYS	2052	31.219	-20.552	63.952	1.00	45.23
ATOM	2405	C	LYS	2052	25.328	-17.656	65.930	1.00	36.45
ATOM	2406	O	LYS	2052	24.420	-18.483	66.020	1.00	36.36
ATOM	2407	N	LEU	2053	25.144	-16.421	65.479	1.00	35.14
ATOM	2408	CA	LEU	2053	23.833	-15.940	65.088	1.00	33.76
ATOM	2409	CB	LEU	2053	23.495	-14.693	65.901	1.00	31.97
ATOM	2410	CG	LEU	2053	23.837	-14.799	67.390	1.00	31.38
ATOM	2411	CD1	LEU	2053	23.641	-13.449	68.062	1.00	30.05
ATOM	2412	CD2	LEU	2053	22.975	-15.880	68.040	1.00	30.70

ATOM	2413	C	LEU	2053	23.741	-15.622	63.613	1.00	33.64
ATOM	2414	O	LEU	2053	24.734	-15.320	62.960	1.00	33.73
ATOM	2415	N	GLN	2054	22.530	-15.686	63.087	1.00	33.50
ATOM	2416	CA	GLN	2054	22.319	-15.398	61.685	1.00	33.49
ATOM	2417	CB	GLN	2054	21.703	-16.629	61.000	1.00	33.45
ATOM	2418	CG	GLN	2054	21.718	-16.587	59.490	1.00	34.53
ATOM	2419	CD	GLN	2054	23.117	-16.480	58.920	1.00	35.58
ATOM	2420	OE1	GLN	2054	23.928	-17.394	59.052	1.00	36.54
ATOM	2421	NE2	GLN	2054	23.407	-15.356	58.283	1.00	36.90
ATOM	2422	C	GLN	2054	21.402	-14.175	61.611	1.00	33.00
ATOM	2423	O	GLN	2054	20.210	-14.252	61.907	1.00	32.54
ATOM	2424	N	LEU	2055	21.984	-13.039	61.242	1.00	33.08
ATOM	2425	CA	LEU	2055	21.239	-11.789	61.141	1.00	32.32
ATOM	2426	CB	LEU	2055	22.148	-10.602	61.464	1.00	31.76
ATOM	2427	CG	LEU	2055	22.940	-10.777	62.760	1.00	32.21
ATOM	2428	CD1	LEU	2055	23.838	-9.582	62.959	1.00	32.57
ATOM	2429	CD2	LEU	2055	21.995	-10.946	63.940	1.00	31.64
ATOM	2430	C	LEU	2055	20.724	-11.695	59.720	1.00	32.13
ATOM	2431	O	LEU	2055	21.502	-11.705	58.765	1.00	31.85
ATOM	2432	N	GLN	2056	19.406	-11.606	59.596	1.00	31.81
ATOM	2433	CA	GLN	2056	18.757	-11.558	58.304	1.00	32.00
ATOM	2434	CB	GLN	2056	17.941	-12.840	58.123	1.00	31.28
ATOM	2435	CG	GLN	2056	17.171	-12.936	56.827	1.00	33.33
ATOM	2436	CD	GLN	2056	18.081	-12.922	55.610	1.00	34.94
ATOM	2437	OE1	GLN	2056	18.966	-13.782	55.467	1.00	35.08
ATOM	2438	NE2	GLN	2056	17.870	-11.945	54.720	1.00	34.69
ATOM	2439	C	GLN	2056	17.858	-10.338	58.184	1.00	32.35
ATOM	2440	O	GLN	2056	16.957	-10.142	58.996	1.00	33.08
ATOM	2441	N	ALA	2057	18.099	-9.522	57.168	1.00	32.59
ATOM	2442	CA	ALA	2057	17.291	-8.330	56.961	1.00	33.89
ATOM	2443	CB	ALA	2057	17.997	-7.371	55.986	1.00	33.09
ATOM	2444	C	ALA	2057	15.928	-8.742	56.408	1.00	34.76
ATOM	2445	O	ALA	2057	15.845	-9.574	55.506	1.00	35.21
ATOM	2446	N	GLU	2058	14.863	-8.173	56.963	1.00	35.09
ATOM	2447	CA	GLU	2058	13.509	-8.470	56.500	1.00	36.09
ATOM	2448	CB	GLU	2058	12.534	-8.482	57.677	1.00	37.01
ATOM	2449	CG	GLU	2058	11.245	-9.210	57.406	1.00	38.98
ATOM	2450	CD	GLU	2058	11.470	-10.585	56.780	1.00	40.69
ATOM	2451	OE1	GLU	2058	12.426	-11.285	57.185	1.00	40.31
ATOM	2452	OE2	GLU	2058	10.680	-10.965	55.884	1.00	42.10
ATOM	2453	C	GLU	2058	13.138	-7.352	55.530	1.00	36.06
ATOM	2454	O	GLU	2058	12.346	-7.529	54.610	1.00	35.63
ATOM	2455	N	GLU	2059	13.732	-6.188	55.768	1.00	36.52
ATOM	2456	CA	GLU	2059	13.556	-5.006	54.938	1.00	36.52
ATOM	2457	CB	GLU	2059	12.216	-4.324	55.197	1.00	37.70
ATOM	2458	CG	GLU	2059	12.122	-3.617	56.530	1.00	41.28
ATOM	2459	CD	GLU	2059	10.904	-2.714	56.602	1.00	43.07
ATOM	2460	OE1	GLU	2059	9.776	-3.256	56.681	1.00	43.50
ATOM	2461	OE2	GLU	2059	11.080	-1.470	56.561	1.00	43.51
ATOM	2462	C	GLU	2059	14.695	-4.076	55.326	1.00	35.67
ATOM	2463	O	GLU	2059	15.488	-4.401	56.205	1.00	36.19
ATOM	2464	N	ARG	2060	14.774	-2.918	54.696	1.00	34.63
ATOM	2465	CA	ARG	2060	15.847	-1.993	54.993	1.00	34.30
ATOM	2466	CB	ARG	2060	15.691	-0.733	54.135	1.00	36.44
ATOM	2467	CG	ARG	2060	17.008	-0.253	53.532	1.00	40.62
ATOM	2468	CD	ARG	2060	16.826	0.420	52.173	1.00	43.95
ATOM	2469	NE	ARG	2060	16.131	1.705	52.264	1.00	47.78
ATOM	2470	CZ	ARG	2060	16.666	2.823	52.756	1.00	49.37
ATOM	2471	NH1	ARG	2060	17.917	2.833	53.204	1.00	50.17
ATOM	2472	NH2	ARG	2060	15.942	3.937	52.814	1.00	49.61
ATOM	2473	C	ARG	2060	15.977	-1.631	56.477	1.00	33.34
ATOM	2474	O	ARG	2060	15.032	-1.146	57.104	1.00	33.00

ATOM	2475	N	GLY	2061	17.164	-1.894	57.031	1.00	32.18
ATOM	2476	CA	GLY	2061	17.454	-1.584	58.420	1.00	30.12
ATOM	2477	C	GLY	2061	16.751	-2.430	59.463	1.00	29.99
ATOM	2478	O	GLY	2061	16.916	-2.187	60.663	1.00	29.62
ATOM	2479	N	VAL	2062	15.972	-3.419	59.025	1.00	29.06
ATOM	2480	CA	VAL	2062	15.252	-4.286	59.956	1.00	28.67
ATOM	2481	CB	VAL	2062	13.735	-4.266	59.674	1.00	28.93
ATOM	2482	CG1	VAL	2062	13.001	-5.138	60.681	1.00	25.59
ATOM	2483	CG2	VAL	2062	13.230	-2.839	59.704	1.00	27.86
ATOM	2484	C	VAL	2062	15.735	-5.721	59.838	1.00	28.68
ATOM	2485	O	VAL	2062	15.711	-6.298	58.750	1.00	29.23
ATOM	2486	N	VAL	2063	16.163	-6.305	60.951	1.00	27.83
ATOM	2487	CA	VAL	2063	16.645	-7.679	60.916	1.00	28.10
ATOM	2488	CB	VAL	2063	18.179	-7.773	61.154	1.00	28.42
ATOM	2489	CG1	VAL	2063	18.944	-6.994	60.082	1.00	27.05
ATOM	2490	CG2	VAL	2063	18.514	-7.300	62.577	1.00	27.83
ATOM	2491	C	VAL	2063	16.009	-8.599	61.947	1.00	28.83
ATOM	2492	O	VAL	2063	15.340	-8.152	62.886	1.00	29.34
ATOM	2493	N	SER	2064	16.223	-9.897	61.750	1.00	28.76
ATOM	2494	CA	SER	2064	15.759	-10.908	62.685	1.00	28.89
ATOM	2495	CB	SER	2064	14.844	-11.930	62.009	1.00	28.14
ATOM	2496	OG	SER	2064	15.547	-12.695	61.051	1.00	30.90
ATOM	2497	C	SER	2064	17.074	-11.553	63.121	1.00	29.37
ATOM	2498	O	SER	2064	18.041	-11.585	62.349	1.00	29.63
ATOM	2499	N	ILE	2065	17.126	-12.032	64.356	1.00	29.64
ATOM	2500	CA	ILE	2065	18.339	-12.635	64.877	1.00	30.62
ATOM	2501	CB	ILE	2065	18.823	-11.852	66.100	1.00	30.96
ATOM	2502	CG2	ILE	2065	20.064	-12.500	66.687	1.00	30.71
ATOM	2503	CG1	ILE	2065	19.090	-10.403	65.688	1.00	31.15
ATOM	2504	CD1	ILE	2065	19.278	-9.463	66.858	1.00	32.40
ATOM	2505	C	ILE	2065	18.070	-14.082	65.257	1.00	31.46
ATOM	2506	O	ILE	2065	17.350	-14.364	66.220	1.00	31.52
ATOM	2507	N	LYS	2066	18.654	-14.995	64.494	1.00	31.52
ATOM	2508	CA	LYS	2066	18.462	-16.412	64.736	1.00	31.98
ATOM	2509	CB	LYS	2066	18.004	-17.086	63.443	1.00	32.43
ATOM	2510	CG	LYS	2066	17.564	-18.526	63.620	1.00	32.60
ATOM	2511	CD	LYS	2066	17.133	-19.156	62.300	1.00	32.00
ATOM	2512	CE	LYS	2066	16.429	-20.479	62.563	1.00	32.05
ATOM	2513	NZ	LYS	2066	16.029	-21.165	61.318	1.00	31.68
ATOM	2514	C	LYS	2066	19.699	-17.126	65.277	1.00	32.24
ATOM	2515	O	LYS	2066	20.801	-17.015	64.725	1.00	31.06
ATOM	2516	N	GLY	2067	19.506	-17.854	66.373	1.00	33.23
ATOM	2517	CA	GLY	2067	20.596	-18.614	66.961	1.00	34.02
ATOM	2518	C	GLY	2067	20.709	-19.868	66.123	1.00	34.15
ATOM	2519	O	GLY	2067	19.818	-20.703	66.143	1.00	34.33
ATOM	2520	N	VAL	2068	21.795	-20.004	65.381	1.00	34.47
ATOM	2521	CA	VAL	2068	21.964	-21.152	64.509	1.00	35.26
ATOM	2522	CB	VAL	2068	23.340	-21.172	63.864	1.00	34.03
ATOM	2523	CG1	VAL	2068	23.397	-22.292	62.842	1.00	33.08
ATOM	2524	CG2	VAL	2068	23.629	-19.833	63.217	1.00	33.92
ATOM	2525	C	VAL	2068	21.731	-22.518	65.132	1.00	36.64
ATOM	2526	O	VAL	2068	20.877	-23.272	64.664	1.00	36.95
ATOM	2527	N	SER	2069	22.479	-22.854	66.175	1.00	37.60
ATOM	2528	CA	SER	2069	22.305	-24.163	66.778	1.00	38.37
ATOM	2529	CB	SER	2069	23.465	-24.475	67.718	1.00	37.74
ATOM	2530	OG	SER	2069	23.287	-23.849	68.969	1.00	38.57
ATOM	2531	C	SER	2069	20.972	-24.290	67.518	1.00	38.94
ATOM	2532	O	SER	2069	20.374	-25.361	67.548	1.00	39.56
ATOM	2533	N	ALA	2070	20.493	-23.205	68.108	1.00	39.13
ATOM	2534	CA	ALA	2070	19.226	-23.266	68.827	1.00	39.53
ATOM	2535	CB	ALA	2070	19.092	-22.052	69.733	1.00	39.50
ATOM	2536	C	ALA	2070	18.036	-23.324	67.870	1.00	39.62

ATOM	2537	O	ALA	2070	16.938	-23.730	68.251	1.00	39.72
ATOM	2538	N	ASN	2071	18.267	-22.909	66.631	1.00	39.29
ATOM	2539	CA	ASN	2071	17.227	-22.865	65.618	1.00	39.24
ATOM	2540	CB	ASN	2071	16.799	-24.281	65.220	1.00	38.60
ATOM	2541	CG	ASN	2071	15.864	-24.301	64.005	1.00	37.85
ATOM	2542	OD1	ASN	2071	15.928	-23.430	63.138	1.00	36.58
ATOM	2543	ND2	ASN	2071	15.008	-25.316	63.934	1.00	37.52
ATOM	2544	C	ASN	2071	16.023	-22.058	66.113	1.00	39.52
ATOM	2545	O	ASN	2071	14.873	-22.402	65.842	1.00	39.65
ATOM	2546	N	ARG	2072	16.297	-20.984	66.851	1.00	39.82
ATOM	2547	CA	ARG	2072	15.245	-20.108	67.357	1.00	39.51
ATOM	2548	CB	ARG	2072	15.056	-20.305	68.853	1.00	40.54
ATOM	2549	CG	ARG	2072	14.547	-21.676	69.209	1.00	43.60
ATOM	2550	CD	ARG	2072	13.878	-21.615	70.552	1.00	46.83
ATOM	2551	NE	ARG	2072	13.382	-22.902	71.032	1.00	49.54
ATOM	2552	CZ	ARG	2072	12.627	-23.033	72.122	1.00	50.83
ATOM	2553	NH1	ARG	2072	12.287	-21.958	72.827	1.00	50.54
ATOM	2554	NH2	ARG	2072	12.212	-24.233	72.515	1.00	51.79
ATOM	2555	C	ARG	2072	15.565	-18.646	67.060	1.00	38.30
ATOM	2556	O	ARG	2072	16.723	-18.278	66.904	1.00	38.11
ATOM	2557	N	TYR	2073	14.528	-17.823	66.974	1.00	37.82
ATOM	2558	CA	TYR	2073	14.678	-16.401	66.693	1.00	36.97
ATOM	2559	CB	TYR	2073	13.618	-15.916	65.697	1.00	36.26
ATOM	2560	CG	TYR	2073	13.572	-16.671	64.386	1.00	35.32
ATOM	2561	CD1	TYR	2073	12.781	-17.813	64.243	1.00	34.14
ATOM	2562	CE1	TYR	2073	12.755	-18.515	63.057	1.00	34.44
ATOM	2563	CD2	TYR	2073	14.335	-16.254	63.298	1.00	34.61
ATOM	2564	CE2	TYR	2073	14.317	-16.951	62.103	1.00	34.47
ATOM	2565	CZ	TYR	2073	13.525	-18.080	61.987	1.00	34.84
ATOM	2566	OH	TYR	2073	13.498	-18.763	60.799	1.00	34.76
ATOM	2567	C	TYR	2073	14.533	-15.572	67.952	1.00	37.28
ATOM	2568	O	TYR	2073	13.648	-15.818	68.773	1.00	38.26
ATOM	2569	N	LEU	2074	15.393	-14.572	68.099	1.00	37.10
ATOM	2570	CA	LEU	2074	15.316	-13.707	69.264	1.00	37.13
ATOM	2571	CB	LEU	2074	16.524	-12.771	69.331	1.00	37.25
ATOM	2572	CG	LEU	2074	16.515	-11.847	70.551	1.00	36.81
ATOM	2573	CD1	LEU	2074	16.651	-12.676	71.810	1.00	37.56
ATOM	2574	CD2	LEU	2074	17.647	-10.855	70.464	1.00	37.34
ATOM	2575	C	LEU	2074	14.043	-12.877	69.186	1.00	36.77
ATOM	2576	O	LEU	2074	13.675	-12.389	68.121	1.00	36.01
ATOM	2577	N	ALA	2075	13.371	-12.732	70.322	1.00	37.58
ATOM	2578	CA	ALA	2075	12.142	-11.954	70.404	1.00	37.98
ATOM	2579	CB	ALA	2075	10.930	-12.858	70.267	1.00	37.74
ATOM	2580	C	ALA	2075	12.091	-11.229	71.733	1.00	38.71
ATOM	2581	O	ALA	2075	12.571	-11.732	72.745	1.00	39.10
ATOM	2582	N	MET	2076	11.512	-10.038	71.712	1.00	40.02
ATOM	2583	CA	MET	2076	11.371	-9.208	72.896	1.00	41.74
ATOM	2584	CB	MET	2076	11.921	-7.818	72.615	1.00	41.95
ATOM	2585	CG	MET	2076	11.277	-6.745	73.432	1.00	41.51
ATOM	2586	SD	MET	2076	12.538	-5.778	74.186	1.00	44.27
ATOM	2587	CE	MET	2076	12.886	-4.666	72.901	1.00	42.71
ATOM	2588	C	MET	2076	9.890	-9.110	73.206	1.00	43.03
ATOM	2589	O	MET	2076	9.097	-8.779	72.326	1.00	43.27
ATOM	2590	N	LYS	2077	9.514	-9.373	74.455	1.00	44.30
ATOM	2591	CA	LYS	2077	8.106	-9.350	74.834	1.00	45.41
ATOM	2592	CB	LYS	2077	7.871	-10.352	75.957	1.00	46.11
ATOM	2593	CG	LYS	2077	8.430	-11.744	75.667	1.00	46.92
ATOM	2594	CD	LYS	2077	7.394	-12.661	75.048	1.00	48.11
ATOM	2595	CE	LYS	2077	6.890	-12.138	73.728	1.00	48.17
ATOM	2596	NZ	LYS	2077	5.851	-13.050	73.180	1.00	48.97
ATOM	2597	C	LYS	2077	7.600	-7.978	75.250	1.00	46.51
ATOM	2598	O	LYS	2077	8.370	-7.023	75.343	1.00	46.90

ATOM	2599	N	GLU	2078	6.294	-7.895	75.501	1.00	47.42
ATOM	2600	CA	GLU	2078	5.646	-6.645	75.900	1.00	48.45
ATOM	2601	CB	GLU	2078	4.121	-6.834	75.989	1.00	50.69
ATOM	2602	CG	GLU	2078	3.315	-5.623	76.542	1.00	53.33
ATOM	2603	CD	GLU	2078	3.034	-4.520	75.506	1.00	55.23
ATOM	2604	OE1	GLU	2078	2.585	-4.842	74.379	1.00	56.62
ATOM	2605	OE2	GLU	2078	3.239	-3.326	75.826	1.00	55.05
ATOM	2606	C	GLU	2078	6.171	-6.097	77.221	1.00	48.14
ATOM	2607	O	GLU	2078	6.101	-4.893	77.460	1.00	48.16
ATOM	2608	N	ASP	2079	6.690	-6.970	78.079	1.00	47.57
ATOM	2609	CA	ASP	2079	7.224	-6.535	79.367	1.00	47.37
ATOM	2610	CB	ASP	2079	7.067	-7.645	80.402	1.00	48.16
ATOM	2611	CG	ASP	2079	7.695	-8.948	79.949	1.00	49.56
ATOM	2612	OD1	ASP	2079	7.915	-9.836	80.806	1.00	50.08
ATOM	2613	OD2	ASP	2079	7.965	-9.081	78.732	1.00	50.00
ATOM	2614	C	ASP	2079	8.702	-6.162	79.240	1.00	46.87
ATOM	2615	O	ASP	2079	9.283	-5.568	80.152	1.00	47.20
ATOM	2616	N	GLY	2080	9.305	-6.526	78.110	1.00	45.91
ATOM	2617	CA	GLY	2080	10.699	-6.204	77.879	1.00	44.80
ATOM	2618	C	GLY	2080	11.651	-7.369	78.017	1.00	44.39
ATOM	2619	O	GLY	2080	12.845	-7.222	77.767	1.00	44.73
ATOM	2620	N	ARG	2081	11.140	-8.530	78.409	1.00	43.97
ATOM	2621	CA	ARG	2081	11.991	-9.702	78.574	1.00	43.45
ATOM	2622	CB	ARG	2081	11.286	-10.739	79.457	1.00	45.01
ATOM	2623	CG	ARG	2081	9.959	-11.278	78.941	1.00	46.70
ATOM	2624	CD	ARG	2081	9.276	-12.117	80.047	1.00	48.80
ATOM	2625	NE	ARG	2081	8.344	-13.134	79.543	1.00	50.51
ATOM	2626	CZ	ARG	2081	7.191	-12.884	78.919	1.00	51.28
ATOM	2627	NH1	ARG	2081	6.789	-11.636	78.703	1.00	51.35
ATOM	2628	NH2	ARG	2081	6.436	-13.894	78.502	1.00	51.55
ATOM	2629	C	ARG	2081	12.373	-10.301	77.225	1.00	42.17
ATOM	2630	O	ARG	2081	11.666	-10.115	76.238	1.00	41.65
ATOM	2631	N	LEU	2082	13.501	-11.000	77.180	1.00	40.89
ATOM	2632	CA	LEU	2082	13.969	-11.605	75.935	1.00	40.35
ATOM	2633	CB	LEU	2082	15.432	-11.236	75.659	1.00	39.12
ATOM	2634	CG	LEU	2082	15.849	-9.788	75.415	1.00	37.50
ATOM	2635	CD1	LEU	2082	17.345	-9.745	75.136	1.00	36.70
ATOM	2636	CD2	LEU	2082	15.081	-9.224	74.241	1.00	37.90
ATOM	2637	C	LEU	2082	13.869	-13.121	75.957	1.00	40.65
ATOM	2638	O	LEU	2082	14.028	-13.755	76.997	1.00	41.43
ATOM	2639	N	LEU	2083	13.613	-13.704	74.798	1.00	40.76
ATOM	2640	CA	LEU	2083	13.523	-15.148	74.704	1.00	40.82
ATOM	2641	CB	LEU	2083	12.181	-15.636	75.266	1.00	40.49
ATOM	2642	CG	LEU	2083	10.878	-15.343	74.527	1.00	40.14
ATOM	2643	CD1	LEU	2083	10.746	-16.282	73.343	1.00	40.58
ATOM	2644	CD2	LEU	2083	9.698	-15.539	75.469	1.00	39.37
ATOM	2645	C	LEU	2083	13.684	-15.536	73.250	1.00	40.87
ATOM	2646	O	LEU	2083	13.589	-14.691	72.365	1.00	41.06
ATOM	2647	N	ALA	2084	13.928	-16.815	73.007	1.00	41.02
ATOM	2648	CA	ALA	2084	14.116	-17.300	71.652	1.00	41.88
ATOM	2649	CB	ALA	2084	15.367	-18.157	71.596	1.00	42.75
ATOM	2650	C	ALA	2084	12.909	-18.111	71.185	1.00	41.93
ATOM	2651	O	ALA	2084	12.722	-19.246	71.607	1.00	42.13
ATOM	2652	N	SER	2085	12.103	-17.518	70.312	1.00	41.29
ATOM	2653	CA	SER	2085	10.921	-18.167	69.772	1.00	40.96
ATOM	2654	CB	SER	2085	9.960	-17.100	69.253	1.00	40.52
ATOM	2655	OG	SER	2085	9.014	-17.661	68.373	1.00	39.48
ATOM	2656	C	SER	2085	11.265	-19.143	68.643	1.00	41.48
ATOM	2657	O	SER	2085	12.199	-18.917	67.878	1.00	40.96
ATOM	2658	N	LYS	2086	10.500	-20.227	68.541	1.00	41.91
ATOM	2659	CA	LYS	2086	10.719	-21.231	67.508	1.00	42.54
ATOM	2660	CB	LYS	2086	9.999	-22.530	67.874	1.00	43.38

ATOM	2661	CG	LYS	2086	10.840	-23.776	67.675	1.00	44.61
ATOM	2662	CD	LYS	2086	12.044	-23.777	68.637	1.00	46.00
ATOM	2663	CE	LYS	2086	12.963	-24.990	68.434	1.00	46.34
ATOM	2664	NZ	LYS	2086	13.473	-25.081	67.027	1.00	44.33
ATOM	2665	C	LYS	2086	10.203	-20.728	66.165	1.00	42.50
ATOM	2666	O	LYS	2086	10.731	-21.081	65.110	1.00	42.30
ATOM	2667	N	SER	2087	9.163	-19.904	66.205	1.00	42.70
ATOM	2668	CA	SER	2087	8.591	-19.350	64.979	1.00	43.10
ATOM	2669	CB	SER	2087	7.101	-19.685	64.867	1.00	43.18
ATOM	2670	OG	SER	2087	6.354	-18.964	65.831	1.00	44.33
ATOM	2671	C	SER	2087	8.752	-17.835	64.940	1.00	42.87
ATOM	2672	O	SER	2087	8.925	-17.189	65.969	1.00	42.02
ATOM	2673	N	VAL	2088	8.667	-17.280	63.739	1.00	43.04
ATOM	2674	CA	VAL	2088	8.811	-15.846	63.523	1.00	43.55
ATOM	2675	CB	VAL	2088	9.205	-15.568	62.055	1.00	43.95
ATOM	2676	CG1	VAL	2088	9.347	-14.072	61.823	1.00	44.00
ATOM	2677	CG2	VAL	2088	10.492	-16.301	61.707	1.00	43.77
ATOM	2678	C	VAL	2088	7.535	-15.066	63.801	1.00	43.80
ATOM	2679	O	VAL	2088	6.520	-15.314	63.169	1.00	44.15
ATOM	2680	N	THR	2089	7.596	-14.112	64.726	1.00	44.65
ATOM	2681	CA	THR	2089	6.439	-13.276	65.062	1.00	44.85
ATOM	2682	CB	THR	2089	5.991	-13.509	66.518	1.00	45.06
ATOM	2683	OG1	THR	2089	6.766	-12.682	67.398	1.00	44.77
ATOM	2684	CG2	THR	2089	6.200	-14.969	66.908	1.00	44.86
ATOM	2685	C	THR	2089	6.883	-11.818	64.911	1.00	45.09
ATOM	2686	O	THR	2089	8.071	-11.554	64.729	1.00	45.51
ATOM	2687	N	ASP	2090	5.949	-10.874	64.992	1.00	44.82
ATOM	2688	CA	ASP	2090	6.313	-9.466	64.851	1.00	44.41
ATOM	2689	CB	ASP	2090	5.063	-8.569	64.780	1.00	45.63
ATOM	2690	CG	ASP	2090	4.188	-8.668	66.024	1.00	47.61
ATOM	2691	OD1	ASP	2090	4.732	-8.901	67.123	1.00	49.03
ATOM	2692	OD2	ASP	2090	2.952	-8.498	65.909	1.00	49.18
ATOM	2693	C	ASP	2090	7.233	-8.983	65.973	1.00	43.36
ATOM	2694	O	ASP	2090	7.758	-7.873	65.913	1.00	44.14
ATOM	2695	N	GLU	2091	7.436	-9.813	66.989	1.00	41.65
ATOM	2696	CA	GLU	2091	8.300	-9.447	68.109	1.00	40.75
ATOM	2697	CB	GLU	2091	7.784	-10.089	69.402	1.00	40.50
ATOM	2698	CG	GLU	2091	6.350	-9.721	69.751	1.00	40.99
ATOM	2699	CD	GLU	2091	5.874	-10.386	71.032	1.00	41.13
ATOM	2700	OE1	GLU	2091	5.976	-11.627	71.130	1.00	41.67
ATOM	2701	OE2	GLU	2091	5.396	-9.668	71.937	1.00	40.91
ATOM	2702	C	GLU	2091	9.739	-9.907	67.872	1.00	39.84
ATOM	2703	O	GLU	2091	10.591	-9.813	68.763	1.00	39.50
ATOM	2704	N	CYS	2092	10.002	-10.403	66.669	1.00	38.39
ATOM	2705	CA	CYS	2092	11.318	-10.908	66.331	1.00	38.25
ATOM	2706	CB	CYS	2092	11.186	-12.286	65.667	1.00	38.84
ATOM	2707	SG	CYS	2092	10.481	-13.586	66.728	1.00	39.99
ATOM	2708	C	CYS	2092	12.119	-9.982	65.425	1.00	37.45
ATOM	2709	O	CYS	2092	13.199	-10.349	64.963	1.00	38.08
ATOM	2710	N	PHE	2093	11.598	-8.786	65.182	1.00	36.01
ATOM	2711	CA	PHE	2093	12.273	-7.838	64.312	1.00	35.06
ATOM	2712	CB	PHE	2093	11.320	-7.443	63.194	1.00	34.60
ATOM	2713	CG	PHE	2093	10.966	-8.597	62.308	1.00	35.16
ATOM	2714	CD1	PHE	2093	11.946	-9.209	61.529	1.00	34.45
ATOM	2715	CD2	PHE	2093	9.671	-9.112	62.290	1.00	35.37
ATOM	2716	CE1	PHE	2093	11.646	-10.312	60.752	1.00	34.78
ATOM	2717	CE2	PHE	2093	9.360	-10.215	61.515	1.00	34.16
ATOM	2718	CZ	PHE	2093	10.349	-10.818	60.743	1.00	34.73
ATOM	2719	C	PHE	2093	12.840	-6.623	65.032	1.00	34.48
ATOM	2720	O	PHE	2093	12.202	-6.043	65.912	1.00	34.85
ATOM	2721	N	PHE	2094	14.055	-6.251	64.650	1.00	33.10
ATOM	2722	CA	PHE	2094	14.749	-5.143	65.284	1.00	32.10

ATOM	2723	CB	PHE	2094	15.850	-5.705	66.188	1.00	31.86
ATOM	2724	CG	PHE	2094	15.357	-6.714	67.187	1.00	31.67
ATOM	2725	CD1	PHE	2094	14.917	-6.311	68.454	1.00	31.90
ATOM	2726	CD2	PHE	2094	15.270	-8.062	66.841	1.00	31.77
ATOM	2727	CE1	PHE	2094	14.392	-7.232	69.359	1.00	31.21
ATOM	2728	CE2	PHE	2094	14.743	-9.003	67.737	1.00	31.89
ATOM	2729	CZ	PHE	2094	14.303	-8.585	68.998	1.00	32.44
ATOM	2730	C	PHE	2094	15.381	-4.194	64.278	1.00	31.49
ATOM	2731	O	PHE	2094	15.798	-4.609	63.201	1.00	31.85
ATOM	2732	N	PHE	2095	15.441	-2.915	64.631	1.00	30.41
ATOM	2733	CA	PHE	2095	16.082	-1.940	63.771	1.00	29.72
ATOM	2734	CB	PHE	2095	15.601	-0.536	64.098	1.00	29.28
ATOM	2735	CG	PHE	2095	14.183	-0.281	63.697	1.00	28.68
ATOM	2736	CD1	PHE	2095	13.220	0.026	64.652	1.00	27.83
ATOM	2737	CD2	PHE	2095	13.801	-0.370	62.361	1.00	28.43
ATOM	2738	CE1	PHE	2095	11.907	0.236	64.287	1.00	27.10
ATOM	2739	CE2	PHE	2095	12.479	-0.158	61.988	1.00	27.81
ATOM	2740	CZ	PHE	2095	11.535	0.145	62.957	1.00	27.56
ATOM	2741	C	PHE	2095	17.554	-2.052	64.087	1.00	29.79
ATOM	2742	O	PHE	2095	17.962	-1.835	65.226	1.00	30.24
ATOM	2743	N	GLU	2096	18.349	-2.429	63.096	1.00	29.84
ATOM	2744	CA	GLU	2096	19.784	-2.548	63.306	1.00	29.84
ATOM	2745	CB	GLU	2096	20.384	-3.694	62.492	1.00	29.37
ATOM	2746	CG	GLU	2096	21.895	-3.816	62.677	1.00	28.81
ATOM	2747	CD	GLU	2096	22.530	-4.840	61.750	1.00	29.13
ATOM	2748	OE1	GLU	2096	22.339	-4.732	60.518	1.00	29.29
ATOM	2749	OE2	GLU	2096	23.230	-5.746	62.252	1.00	28.34
ATOM	2750	C	GLU	2096	20.431	-1.244	62.878	1.00	30.21
ATOM	2751	O	GLU	2096	20.327	-0.824	61.720	1.00	30.33
ATOM	2752	N	ARG	2097	21.109	-0.602	63.813	1.00	30.18
ATOM	2753	CA	ARG	2097	21.751	0.655	63.509	1.00	29.84
ATOM	2754	CB	ARG	2097	21.036	1.770	64.270	1.00	30.45
ATOM	2755	CG	ARG	2097	21.752	3.094	64.295	1.00	33.23
ATOM	2756	CD	ARG	2097	20.823	4.205	64.789	1.00	34.88
ATOM	2757	NE	ARG	2097	21.532	5.474	64.948	1.00	38.02
ATOM	2758	CZ	ARG	2097	22.111	6.155	63.955	1.00	39.80
ATOM	2759	NH1	ARG	2097	22.067	5.698	62.702	1.00	39.80
ATOM	2760	NH2	ARG	2097	22.763	7.285	64.221	1.00	39.52
ATOM	2761	C	ARG	2097	23.229	0.658	63.849	1.00	29.17
ATOM	2762	O	ARG	2097	23.632	0.228	64.929	1.00	29.13
ATOM	2763	N	LEU	2098	24.034	1.124	62.900	1.00	28.72
ATOM	2764	CA	LEU	2098	25.478	1.256	63.095	1.00	28.55
ATOM	2765	CB	LEU	2098	26.216	1.141	61.749	1.00	28.60
ATOM	2766	CG	LEU	2098	27.674	1.623	61.601	1.00	28.87
ATOM	2767	CD1	LEU	2098	28.535	1.208	62.785	1.00	29.74
ATOM	2768	CD2	LEU	2098	28.243	1.035	60.321	1.00	28.98
ATOM	2769	C	LEU	2098	25.618	2.666	63.671	1.00	28.37
ATOM	2770	O	LEU	2098	25.579	3.653	62.939	1.00	28.15
ATOM	2771	N	GLU	2099	25.740	2.755	64.990	1.00	27.71
ATOM	2772	CA	GLU	2099	25.850	4.049	65.650	1.00	27.87
ATOM	2773	CB	GLU	2099	25.787	3.883	67.171	1.00	27.75
ATOM	2774	CG	GLU	2099	24.598	3.084	67.676	1.00	30.30
ATOM	2775	CD	GLU	2099	23.246	3.800	67.548	1.00	31.10
ATOM	2776	OE1	GLU	2099	22.220	3.138	67.805	1.00	32.73
ATOM	2777	OE2	GLU	2099	23.190	5.007	67.209	1.00	31.03
ATOM	2778	C	GLU	2099	27.142	4.787	65.292	1.00	28.33
ATOM	2779	O	GLU	2099	28.117	4.195	64.807	1.00	27.42
ATOM	2780	N	SER	2100	27.144	6.087	65.568	1.00	28.08
ATOM	2781	CA	SER	2100	28.296	6.924	65.285	1.00	27.90
ATOM	2782	CB	SER	2100	27.959	8.400	65.537	1.00	27.71
ATOM	2783	OG	SER	2100	27.495	8.619	66.864	1.00	31.20
ATOM	2784	C	SER	2100	29.519	6.513	66.096	1.00	27.60

ATOM	2785	O	SER	2100	30.638	6.864	65.748	1.00	27.91
ATOM	2786	N	ASN	2101	29.323	5.769	67.174	1.00	27.41
ATOM	2787	CA	ASN	2101	30.471	5.342	67.964	1.00	27.39
ATOM	2788	CB	ASN	2101	30.108	5.263	69.440	1.00	28.75
ATOM	2789	CG	ASN	2101	29.324	4.023	69.771	1.00	29.79
ATOM	2790	OD1	ASN	2101	28.821	3.328	68.875	1.00	31.16
ATOM	2791	ND2	ASN	2101	29.208	3.730	71.062	1.00	29.82
ATOM	2792	C	ASN	2101	30.995	3.977	67.476	1.00	27.39
ATOM	2793	O	ASN	2101	31.828	3.351	68.131	1.00	26.65
ATOM	2794	N	ASN	2102	30.488	3.528	66.326	1.00	27.16
ATOM	2795	CA	ASN	2102	30.895	2.270	65.699	1.00	26.40
ATOM	2796	CB	ASN	2102	32.413	2.213	65.568	1.00	26.84
ATOM	2797	CG	ASN	2102	32.908	2.978	64.371	1.00	27.25
ATOM	2798	OD1	ASN	2102	32.337	2.880	63.297	1.00	26.85
ATOM	2799	ND2	ASN	2102	33.983	3.743	64.548	1.00	28.14
ATOM	2800	C	ASN	2102	30.398	0.967	66.306	1.00	26.54
ATOM	2801	O	ASN	2102	30.929	-0.107	66.016	1.00	25.92
ATOM	2802	N	TYR	2103	29.393	1.054	67.164	1.00	26.22
ATOM	2803	CA	TYR	2103	28.815	-0.142	67.732	1.00	25.44
ATOM	2804	CB	TYR	2103	28.775	-0.050	69.250	1.00	25.93
ATOM	2805	CG	TYR	2103	30.106	-0.330	69.923	1.00	26.38
ATOM	2806	CD1	TYR	2103	30.426	-1.608	70.394	1.00	26.02
ATOM	2807	CE1	TYR	2103	31.622	-1.845	71.067	1.00	25.86
ATOM	2808	CD2	TYR	2103	31.026	0.695	70.134	1.00	26.61
ATOM	2809	CE2	TYR	2103	32.222	0.467	70.801	1.00	25.99
ATOM	2810	CZ	TYR	2103	32.512	-0.796	71.267	1.00	26.56
ATOM	2811	OH	TYR	2103	33.685	-0.990	71.952	1.00	28.31
ATOM	2812	C	TYR	2103	27.410	-0.208	67.147	1.00	25.48
ATOM	2813	O	TYR	2103	26.881	0.802	66.681	1.00	25.33
ATOM	2814	N	ASN	2104	26.825	-1.398	67.132	1.00	25.61
ATOM	2815	CA	ASN	2104	25.482	-1.575	66.609	1.00	25.53
ATOM	2816	CB	ASN	2104	25.369	-2.894	65.861	1.00	26.04
ATOM	2817	CG	ASN	2104	25.956	-2.845	64.460	1.00	27.07
ATOM	2818	OD1	ASN	2104	26.605	-1.875	64.062	1.00	28.87
ATOM	2819	ND2	ASN	2104	25.737	-3.917	63.706	1.00	26.67
ATOM	2820	C	ASN	2104	24.489	-1.603	67.752	1.00	26.04
ATOM	2821	O	ASN	2104	24.835	-1.972	68.873	1.00	26.56
ATOM	2822	N	THR	2105	23.259	-1.193	67.472	1.00	26.42
ATOM	2823	CA	THR	2105	22.205	-1.251	68.467	1.00	26.70
ATOM	2824	CB	THR	2105	21.664	0.127	68.859	1.00	26.84
ATOM	2825	OG1	THR	2105	21.187	0.797	67.692	1.00	27.28
ATOM	2826	CG2	THR	2105	22.736	0.946	69.550	1.00	26.53
ATOM	2827	C	THR	2105	21.088	-2.013	67.784	1.00	27.60
ATOM	2828	O	THR	2105	21.021	-2.058	66.549	1.00	27.98
ATOM	2829	N	TYR	2106	20.221	-2.619	68.581	1.00	28.01
ATOM	2830	CA	TYR	2106	19.097	-3.375	68.051	1.00	28.31
ATOM	2831	CB	TYR	2106	19.385	-4.883	68.181	1.00	27.15
ATOM	2832	CG	TYR	2106	20.526	-5.324	67.289	1.00	25.58
ATOM	2833	CD1	TYR	2106	20.307	-5.640	65.949	1.00	24.52
ATOM	2834	CE1	TYR	2106	21.367	-5.920	65.085	1.00	23.44
ATOM	2835	CD2	TYR	2106	21.838	-5.312	67.750	1.00	25.63
ATOM	2836	CE2	TYR	2106	22.909	-5.594	66.891	1.00	24.90
ATOM	2837	CZ	TYR	2106	22.664	-5.894	65.560	1.00	23.78
ATOM	2838	OH	TYR	2106	23.724	-6.157	64.711	1.00	23.43
ATOM	2839	C	TYR	2106	17.847	-2.959	68.815	1.00	29.03
ATOM	2840	O	TYR	2106	17.654	-3.317	69.972	1.00	28.35
ATOM	2841	N	ARG	2107	17.009	-2.179	68.153	1.00	30.70
ATOM	2842	CA	ARG	2107	15.795	-1.682	68.767	1.00	32.11
ATOM	2843	CB	ARG	2107	15.654	-0.208	68.449	1.00	32.73
ATOM	2844	CG	ARG	2107	14.764	0.562	69.393	1.00	33.77
ATOM	2845	CD	ARG	2107	14.798	2.032	69.039	1.00	33.54
ATOM	2846	NE	ARG	2107	14.801	2.229	67.595	1.00	34.24

ATOM	2847	CZ	ARG	2107	14.074	3.140	66.967	1.00	35.51
ATOM	2848	NH1	ARG	2107	13.275	3.940	67.661	1.00	36.69
ATOM	2849	NH2	ARG	2107	14.153	3.261	65.649	1.00	35.73
ATOM	2850	C	ARG	2107	14.564	-2.448	68.291	1.00	33.58
ATOM	2851	O	ARG	2107	14.391	-2.709	67.093	1.00	33.94
ATOM	2852	N	SER	2108	13.715	-2.818	69.240	1.00	34.22
ATOM	2853	CA	SER	2108	12.499	-3.552	68.928	1.00	35.61
ATOM	2854	CB	SER	2108	11.717	-3.832	70.202	1.00	35.04
ATOM	2855	OG	SER	2108	10.458	-4.387	69.881	1.00	36.16
ATOM	2856	C	SER	2108	11.609	-2.779	67.972	1.00	36.44
ATOM	2857	O	SER	2108	11.287	-1.621	68.233	1.00	36.93
ATOM	2858	N	ARG	2109	11.207	-3.407	66.870	1.00	37.57
ATOM	2859	CA	ARG	2109	10.338	-2.717	65.929	1.00	39.12
ATOM	2860	CB	ARG	2109	10.314	-3.405	64.564	1.00	39.94
ATOM	2861	CG	ARG	2109	9.299	-2.727	63.634	1.00	42.56
ATOM	2862	CD	ARG	2109	9.530	-2.959	62.153	1.00	43.76
ATOM	2863	NE	ARG	2109	9.089	-4.268	61.689	1.00	46.95
ATOM	2864	CZ	ARG	2109	9.075	-4.626	60.406	1.00	48.92
ATOM	2865	NH1	ARG	2109	9.478	-3.762	59.476	1.00	49.68
ATOM	2866	NH2	ARG	2109	8.673	-5.843	60.049	1.00	48.65
ATOM	2867	C	ARG	2109	8.919	-2.637	66.487	1.00	39.72
ATOM	2868	O	ARG	2109	8.134	-1.778	66.082	1.00	39.01
ATOM	2869	N	LYS	2110	8.601	-3.529	67.425	1.00	40.31
ATOM	2870	CA	LYS	2110	7.283	-3.532	68.032	1.00	40.94
ATOM	2871	CB	LYS	2110	6.870	-4.936	68.478	1.00	41.71
ATOM	2872	CG	LYS	2110	5.380	-5.016	68.785	1.00	43.04
ATOM	2873	CD	LYS	2110	4.881	-6.441	68.959	1.00	44.52
ATOM	2874	CE	LYS	2110	3.372	-6.473	69.197	1.00	44.39
ATOM	2875	NZ	LYS	2110	2.624	-5.898	68.039	1.00	44.75
ATOM	2876	C	LYS	2110	7.253	-2.574	69.211	1.00	40.76
ATOM	2877	O	LYS	2110	6.349	-1.747	69.315	1.00	41.46
ATOM	2878	N	TYR	2111	8.246	-2.679	70.087	1.00	40.63
ATOM	2879	CA	TYR	2111	8.362	-1.808	71.263	1.00	40.00
ATOM	2880	CB	TYR	2111	8.662	-2.676	72.486	1.00	40.34
ATOM	2881	CG	TYR	2111	7.733	-3.868	72.559	1.00	40.79
ATOM	2882	CD1	TYR	2111	6.377	-3.702	72.841	1.00	40.71
ATOM	2883	CE1	TYR	2111	5.496	-4.784	72.819	1.00	41.25
ATOM	2884	CD2	TYR	2111	8.190	-5.154	72.261	1.00	41.12
ATOM	2885	CE2	TYR	2111	7.317	-6.247	72.237	1.00	41.36
ATOM	2886	CZ	TYR	2111	5.971	-6.053	72.516	1.00	41.75
ATOM	2887	OH	TYR	2111	5.097	-7.123	72.491	1.00	42.21
ATOM	2888	C	TYR	2111	9.505	-0.837	70.957	1.00	39.35
ATOM	2889	O	TYR	2111	10.584	-0.908	71.540	1.00	39.73
ATOM	2890	N	THR	2112	9.221	0.065	70.022	1.00	38.73
ATOM	2891	CA	THR	2112	10.154	1.057	69.501	1.00	38.68
ATOM	2892	CB	THR	2112	9.409	2.127	68.666	1.00	38.91
ATOM	2893	OG1	THR	2112	8.434	2.781	69.487	1.00	39.96
ATOM	2894	CG2	THR	2112	8.731	1.496	67.460	1.00	38.24
ATOM	2895	C	THR	2112	11.125	1.800	70.400	1.00	38.37
ATOM	2896	O	THR	2112	12.044	2.438	69.890	1.00	39.14
ATOM	2897	N	SER	2113	10.951	1.760	71.712	1.00	38.11
ATOM	2898	CA	SER	2113	11.900	2.477	72.555	1.00	38.34
ATOM	2899	CB	SER	2113	11.189	3.548	73.404	1.00	39.61
ATOM	2900	OG	SER	2113	10.058	3.032	74.079	1.00	42.34
ATOM	2901	C	SER	2113	12.743	1.557	73.427	1.00	37.71
ATOM	2902	O	SER	2113	13.476	2.016	74.301	1.00	37.56
ATOM	2903	N	TRP	2114	12.658	0.257	73.167	1.00	37.04
ATOM	2904	CA	TRP	2114	13.434	-0.718	73.928	1.00	36.46
ATOM	2905	CB	TRP	2114	12.522	-1.806	74.472	1.00	38.16
ATOM	2906	CG	TRP	2114	11.488	-1.314	75.426	1.00	40.57
ATOM	2907	CD2	TRP	2114	10.405	-2.075	75.958	1.00	41.10
ATOM	2908	CE2	TRP	2114	9.754	-1.267	76.911	1.00	41.79

ATOM	2909	CE3	TRP	2114	9.923	-3.372	75.725	1.00	41.40
ATOM	2910	CD1	TRP	2114	11.447	-0.095	76.051	1.00	40.98
ATOM	2911	NE1	TRP	2114	10.410	-0.062	76.947	1.00	41.41
ATOM	2912	CZ2	TRP	2114	8.647	-1.712	77.636	1.00	42.61
ATOM	2913	CZ3	TRP	2114	8.822	-3.816	76.445	1.00	42.31
ATOM	2914	CH2	TRP	2114	8.197	-2.988	77.389	1.00	42.61
ATOM	2915	C	TRP	2114	14.531	-1.370	73.095	1.00	35.03
ATOM	2916	O	TRP	2114	14.313	-1.731	71.943	1.00	34.30
ATOM	2917	N	TYR	2115	15.706	-1.530	73.695	1.00	33.60
ATOM	2918	CA	TYR	2115	16.850	-2.126	73.016	1.00	31.96
ATOM	2919	CB	TYR	2115	18.102	-1.261	73.192	1.00	31.76
ATOM	2920	CG	TYR	2115	18.045	0.119	72.604	1.00	31.70
ATOM	2921	CD1	TYR	2115	17.365	1.144	73.247	1.00	31.71
ATOM	2922	CE1	TYR	2115	17.299	2.417	72.692	1.00	32.06
ATOM	2923	CD2	TYR	2115	18.666	0.399	71.387	1.00	32.06
ATOM	2924	CE2	TYR	2115	18.606	1.661	70.821	1.00	32.34
ATOM	2925	CZ	TYR	2115	17.918	2.667	71.475	1.00	32.58
ATOM	2926	OH	TYR	2115	17.810	3.912	70.894	1.00	33.03
ATOM	2927	C	TYR	2115	17.212	-3.504	73.551	1.00	31.50
ATOM	2928	O	TYR	2115	16.955	-3.825	74.717	1.00	32.03
ATOM	2929	N	VAL	2116	17.831	-4.311	72.698	1.00	30.32
ATOM	2930	CA	VAL	2116	18.300	-5.616	73.121	1.00	29.98
ATOM	2931	CB	VAL	2116	18.778	-6.458	71.928	1.00	29.14
ATOM	2932	CG1	VAL	2116	19.548	-7.665	72.407	1.00	28.14
ATOM	2933	CG2	VAL	2116	17.597	-6.889	71.114	1.00	29.83
ATOM	2934	C	VAL	2116	19.495	-5.226	73.988	1.00	30.87
ATOM	2935	O	VAL	2116	20.250	-4.329	73.624	1.00	31.54
ATOM	2936	N	ALA	2117	19.669	-5.876	75.133	1.00	31.62
ATOM	2937	CA	ALA	2117	20.768	-5.514	76.014	1.00	31.53
ATOM	2938	CB	ALA	2117	20.398	-4.269	76.777	1.00	31.35
ATOM	2939	C	ALA	2117	21.163	-6.601	76.997	1.00	32.19
ATOM	2940	O	ALA	2117	20.344	-7.442	77.374	1.00	32.01
ATOM	2941	N	LEU	2118	22.429	-6.568	77.411	1.00	32.78
ATOM	2942	CA	LEU	2118	22.968	-7.518	78.383	1.00	33.96
ATOM	2943	CB	LEU	2118	24.081	-8.379	77.768	1.00	31.56
ATOM	2944	CG	LEU	2118	23.711	-9.308	76.605	1.00	30.25
ATOM	2945	CD1	LEU	2118	24.931	-10.072	76.196	1.00	28.61
ATOM	2946	CD2	LEU	2118	22.574	-10.260	76.999	1.00	28.40
ATOM	2947	C	LEU	2118	23.536	-6.749	79.566	1.00	35.73
ATOM	2948	O	LEU	2118	24.145	-5.698	79.384	1.00	36.49
ATOM	2949	N	LYS	2119	23.320	-7.267	80.775	1.00	37.76
ATOM	2950	CA	LYS	2119	23.826	-6.640	81.990	1.00	38.95
ATOM	2951	CB	LYS	2119	23.029	-7.102	83.214	1.00	38.97
ATOM	2952	CG	LYS	2119	21.517	-6.882	83.164	1.00	39.95
ATOM	2953	CD	LYS	2119	20.902	-7.148	84.544	1.00	40.37
ATOM	2954	CE	LYS	2119	19.415	-7.560	84.493	1.00	42.09
ATOM	2955	NZ	LYS	2119	18.392	-6.492	84.201	1.00	42.91
ATOM	2956	C	LYS	2119	25.277	-7.067	82.163	1.00	40.31
ATOM	2957	O	LYS	2119	25.757	-7.952	81.462	1.00	39.96
ATOM	2958	N	ARG	2120	25.977	-6.445	83.102	1.00	42.63
ATOM	2959	CA	ARG	2120	27.368	-6.792	83.351	1.00	45.00
ATOM	2960	CB	ARG	2120	27.993	-5.786	84.308	1.00	47.63
ATOM	2961	CG	ARG	2120	28.024	-4.385	83.760	1.00	51.89
ATOM	2962	CD	ARG	2120	28.543	-3.400	84.779	1.00	55.64
ATOM	2963	NE	ARG	2120	28.807	-2.102	84.161	1.00	59.93
ATOM	2964	CZ	ARG	2120	29.147	-0.999	84.828	1.00	62.27
ATOM	2965	NH1	ARG	2120	29.266	-1.020	86.156	1.00	62.86
ATOM	2966	NH2	ARG	2120	29.378	0.131	84.162	1.00	63.23
ATOM	2967	C	ARG	2120	27.489	-8.194	83.933	1.00	44.95
ATOM	2968	O	ARG	2120	28.584	-8.747	84.014	1.00	45.89
ATOM	2969	N	THR	2121	26.358	-8.763	84.334	1.00	44.82
ATOM	2970	CA	THR	2121	26.311	-10.103	84.912	1.00	44.65

ATOM	2971	CB	THR	2121	25.084	-10.269	85.798	1.00	44.06
ATOM	2972	OG1	THR	2121	23.912	-9.927	85.047	1.00	43.55
ATOM	2973	CG2	THR	2121	25.181	-9.383	87.013	1.00	43.86
ATOM	2974	C	THR	2121	26.229	-11.187	83.846	1.00	44.98
ATOM	2975	O	THR	2121	26.387	-12.369	84.141	1.00	46.06
ATOM	2976	N	GLY	2122	25.970	-10.787	82.610	1.00	44.69
ATOM	2977	CA	GLY	2122	25.847	-11.759	81.544	1.00	44.75
ATOM	2978	C	GLY	2122	24.385	-12.117	81.329	1.00	44.90
ATOM	2979	O	GLY	2122	24.051	-12.890	80.435	1.00	45.54
ATOM	2980	N	GLN	2123	23.511	-11.567	82.163	1.00	44.47
ATOM	2981	CA	GLN	2123	22.086	-11.819	82.035	1.00	44.64
ATOM	2982	CB	GLN	2123	21.402	-11.724	83.386	1.00	46.21
ATOM	2983	CG	GLN	2123	22.029	-12.550	84.473	1.00	48.48
ATOM	2984	CD	GLN	2123	21.442	-12.205	85.827	1.00	50.36
ATOM	2985	OE1	GLN	2123	21.569	-11.067	86.308	1.00	50.59
ATOM	2986	NE2	GLN	2123	20.780	-13.181	86.448	1.00	51.47
ATOM	2987	C	GLN	2123	21.543	-10.717	81.146	1.00	44.21
ATOM	2988	O	GLN	2123	22.042	-9.596	81.178	1.00	43.82
ATOM	2989	N	TYR	2124	20.520	-11.011	80.356	1.00	43.41
ATOM	2990	CA	TYR	2124	19.997	-9.972	79.491	1.00	42.74
ATOM	2991	CB	TYR	2124	19.009	-10.546	78.469	1.00	42.17
ATOM	2992	CG	TYR	2124	17.638	-10.877	79.001	1.00	42.56
ATOM	2993	CD1	TYR	2124	16.698	-9.876	79.238	1.00	42.31
ATOM	2994	CE1	TYR	2124	15.427	-10.186	79.696	1.00	42.79
ATOM	2995	CD2	TYR	2124	17.268	-12.199	79.242	1.00	42.45
ATOM	2996	CE2	TYR	2124	16.006	-12.514	79.700	1.00	42.40
ATOM	2997	CZ	TYR	2124	15.088	-11.509	79.926	1.00	42.56
ATOM	2998	OH	TYR	2124	13.834	-11.830	80.388	1.00	42.62
ATOM	2999	C	TYR	2124	19.348	-8.912	80.360	1.00	42.47
ATOM	3000	O	TYR	2124	19.009	-9.171	81.509	1.00	42.50
ATOM	3001	N	LYS	2125	19.200	-7.712	79.818	1.00	41.99
ATOM	3002	CA	LYS	2125	18.591	-6.618	80.553	1.00	41.43
ATOM	3003	CB	LYS	2125	19.484	-5.384	80.480	1.00	41.27
ATOM	3004	CG	LYS	2125	18.895	-4.149	81.130	1.00	40.16
ATOM	3005	CD	LYS	2125	19.758	-2.937	80.870	1.00	39.70
ATOM	3006	CE	LYS	2125	20.114	-2.249	82.165	1.00	39.65
ATOM	3007	NZ	LYS	2125	20.858	-0.988	81.938	1.00	39.01
ATOM	3008	C	LYS	2125	17.230	-6.297	79.951	1.00	41.80
ATOM	3009	O	LYS	2125	17.089	-6.193	78.730	1.00	41.73
ATOM	3010	N	LEU	2126	16.224	-6.146	80.806	1.00	42.08
ATOM	3011	CA	LEU	2126	14.885	-5.841	80.331	1.00	42.35
ATOM	3012	CB	LEU	2126	13.943	-5.579	81.503	1.00	43.27
ATOM	3013	CG	LEU	2126	13.366	-6.802	82.219	1.00	44.21
ATOM	3014	CD1	LEU	2126	12.212	-6.356	83.095	1.00	43.89
ATOM	3015	CD2	LEU	2126	12.870	-7.824	81.199	1.00	44.37
ATOM	3016	C	LEU	2126	14.878	-4.643	79.402	1.00	42.64
ATOM	3017	O	LEU	2126	15.425	-3.590	79.727	1.00	42.44
ATOM	3018	N	GLY	2127	14.248	-4.810	78.244	1.00	42.68
ATOM	3019	CA	GLY	2127	14.174	-3.727	77.283	1.00	42.96
ATOM	3020	C	GLY	2127	13.525	-2.502	77.889	1.00	43.02
ATOM	3021	O	GLY	2127	13.866	-1.369	77.555	1.00	43.21
ATOM	3022	N	SER	2128	12.585	-2.734	78.795	1.00	43.02
ATOM	3023	CA	SER	2128	11.887	-1.641	79.444	1.00	43.53
ATOM	3024	CB	SER	2128	10.748	-2.189	80.309	1.00	43.90
ATOM	3025	OG	SER	2128	11.235	-3.063	81.316	1.00	44.04
ATOM	3026	C	SER	2128	12.839	-0.802	80.295	1.00	43.82
ATOM	3027	O	SER	2128	12.518	0.324	80.670	1.00	43.82
ATOM	3028	N	LYS	2129	14.008	-1.350	80.600	1.00	43.76
ATOM	3029	CA	LYS	2129	14.987	-0.627	81.402	1.00	44.27
ATOM	3030	CB	LYS	2129	15.531	-1.518	82.515	1.00	45.58
ATOM	3031	CG	LYS	2129	14.580	-1.732	83.674	1.00	47.07
ATOM	3032	CD	LYS	2129	15.205	-2.684	84.684	1.00	48.78

ATOM	3033	CE	LYS	2129	14.269	-2.977	85.849	1.00	49.97
ATOM	3034	NZ	LYS	2129	14.775	-4.126	86.667	1.00	51.11
ATOM	3035	C	LYS	2129	16.160	-0.099	80.577	1.00	43.94
ATOM	3036	O	LYS	2129	17.108	0.450	81.130	1.00	43.60
ATOM	3037	N	THR	2130	16.100	-0.263	79.259	1.00	43.35
ATOM	3038	CA	THR	2130	17.183	0.202	78.407	1.00	42.94
ATOM	3039	CB	THR	2130	17.345	-0.697	77.155	1.00	42.84
ATOM	3040	OG1	THR	2130	16.156	-0.655	76.358	1.00	42.17
ATOM	3041	CG2	THR	2130	17.613	-2.126	77.576	1.00	43.08
ATOM	3042	C	THR	2130	16.982	1.648	77.973	1.00	42.95
ATOM	3043	O	THR	2130	15.902	2.211	78.148	1.00	43.02
ATOM	3044	N	GLY	2131	18.036	2.239	77.419	1.00	42.70
ATOM	3045	CA	GLY	2131	17.978	3.615	76.965	1.00	42.23
ATOM	3046	C	GLY	2131	19.143	3.897	76.043	1.00	42.39
ATOM	3047	O	GLY	2131	20.099	3.127	76.022	1.00	43.27
ATOM	3048	N	PRO	2132	19.109	5.006	75.291	1.00	42.14
ATOM	3049	CD	PRO	2132	18.107	6.068	75.461	1.00	41.69
ATOM	3050	CA	PRO	2132	20.146	5.430	74.340	1.00	41.69
ATOM	3051	CB	PRO	2132	19.631	6.783	73.846	1.00	41.69
ATOM	3052	CG	PRO	2132	18.166	6.752	74.140	1.00	41.64
ATOM	3053	C	PRO	2132	21.542	5.578	74.935	1.00	41.55
ATOM	3054	O	PRO	2132	22.541	5.213	74.315	1.00	41.92
ATOM	3055	N	GLY	2133	21.601	6.140	76.139	1.00	41.22
ATOM	3056	CA	GLY	2133	22.877	6.369	76.781	1.00	40.02
ATOM	3057	C	GLY	2133	23.420	5.231	77.612	1.00	39.88
ATOM	3058	O	GLY	2133	24.174	5.460	78.562	1.00	39.33
ATOM	3059	N	GLN	2134	23.060	3.999	77.271	1.00	39.42
ATOM	3060	CA	GLN	2134	23.552	2.863	78.041	1.00	38.56
ATOM	3061	CB	GLN	2134	22.390	1.973	78.493	1.00	38.82
ATOM	3062	CG	GLN	2134	21.329	2.697	79.308	1.00	39.65
ATOM	3063	CD	GLN	2134	20.161	1.797	79.681	1.00	39.65
ATOM	3064	OE1	GLN	2134	19.184	2.243	80.286	1.00	40.44
ATOM	3065	NE2	GLN	2134	20.256	0.528	79.321	1.00	39.76
ATOM	3066	C	GLN	2134	24.567	2.017	77.283	1.00	37.84
ATOM	3067	O	GLN	2134	24.463	1.826	76.074	1.00	37.90
ATOM	3068	N	LYS	2135	25.548	1.513	78.019	1.00	36.94
ATOM	3069	CA	LYS	2135	26.591	0.676	77.459	1.00	36.45
ATOM	3070	CB	LYS	2135	27.756	0.560	78.442	1.00	36.60
ATOM	3071	CG	LYS	2135	28.903	-0.308	77.933	1.00	38.16
ATOM	3072	CD	LYS	2135	29.949	-0.578	79.008	1.00	39.10
ATOM	3073	CE	LYS	2135	30.506	0.708	79.604	1.00	40.18
ATOM	3074	NZ	LYS	2135	31.622	0.436	80.552	1.00	40.84
ATOM	3075	C	LYS	2135	26.054	-0.718	77.157	1.00	36.15
ATOM	3076	O	LYS	2135	26.604	-1.438	76.315	1.00	37.31
ATOM	3077	N	ALA	2136	24.971	-1.086	77.834	1.00	34.85
ATOM	3078	CA	ALA	2136	24.371	-2.403	77.685	1.00	33.86
ATOM	3079	CB	ALA	2136	23.375	-2.638	78.825	1.00	33.84
ATOM	3080	C	ALA	2136	23.701	-2.676	76.340	1.00	32.77
ATOM	3081	O	ALA	2136	23.507	-3.833	75.972	1.00	32.53
ATOM	3082	N	ILE	2137	23.369	-1.624	75.597	1.00	31.86
ATOM	3083	CA	ILE	2137	22.695	-1.803	74.316	1.00	31.05
ATOM	3084	CB	ILE	2137	21.650	-0.684	74.088	1.00	31.33
ATOM	3085	CG2	ILE	2137	20.759	-0.546	75.315	1.00	31.19
ATOM	3086	CG1	ILE	2137	22.350	0.655	73.846	1.00	32.27
ATOM	3087	CD1	ILE	2137	21.397	1.772	73.403	1.00	32.21
ATOM	3088	C	ILE	2137	23.641	-1.845	73.114	1.00	30.94
ATOM	3089	O	ILE	2137	23.219	-2.116	71.983	1.00	30.58
ATOM	3090	N	LEU	2138	24.925	-1.603	73.367	1.00	30.51
ATOM	3091	CA	LEU	2138	25.928	-1.576	72.303	1.00	29.42
ATOM	3092	CB	LEU	2138	27.024	-0.563	72.665	1.00	27.55
ATOM	3093	CG	LEU	2138	26.484	0.837	72.996	1.00	26.99
ATOM	3094	CD1	LEU	2138	27.604	1.726	73.505	1.00	26.16

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ATOM   3095  CD2 LEU  2138      25.832   1.448  71.779  1.00 24.73
ATOM   3096  C   LEU  2138      26.558  -2.933  71.997  1.00 29.46
ATOM   3097  O   LEU  2138      27.076  -3.608  72.888  1.00 28.90
ATOM   3098  N   PHE  2139      26.526  -3.323  70.726  1.00 28.91
ATOM   3099  CA  PHE  2139      27.110  -4.595  70.335  1.00 28.76
ATOM   3100  CB  PHE  2139      26.014  -5.608  69.980  1.00 28.14
ATOM   3101  CG  PHE  2139      25.109  -5.946  71.130  1.00 27.61
ATOM   3102  CD1 PHE  2139      24.065  -5.099  71.488  1.00 27.76
ATOM   3103  CD2 PHE  2139      25.321  -7.095  71.882  1.00 27.03
ATOM   3104  CE1 PHE  2139      23.242  -5.390  72.581  1.00 27.04
ATOM   3105  CE2 PHE  2139      24.504  -7.394  72.975  1.00 26.53
ATOM   3106  CZ  PHE  2139      23.465  -6.541  73.323  1.00 26.62
ATOM   3107  C   PHE  2139      28.075  -4.453  69.175  1.00 29.14
ATOM   3108  O   PHE  2139      27.873  -3.641  68.275  1.00 29.62
ATOM   3109  N   LEU  2140      29.141  -5.235  69.211  1.00 29.27
ATOM   3110  CA  LEU  2140      30.120  -5.208  68.140  1.00 30.55
ATOM   3111  CB  LEU  2140      31.537  -5.067  68.701  1.00 30.31
ATOM   3112  CG  LEU  2140      32.691  -5.009  67.699  1.00 30.06
ATOM   3113  CD1 LEU  2140      32.535  -3.783  66.806  1.00 30.98
ATOM   3114  CD2 LEU  2140      34.011  -4.963  68.442  1.00 28.70
ATOM   3115  C   LEU  2140      29.988  -6.517  67.359  1.00 31.65
ATOM   3116  O   LEU  2140      30.258  -7.600  67.880  1.00 31.53
ATOM   3117  N   PRO  2141      29.540  -6.437  66.102  1.00 32.57
ATOM   3118  CD  PRO  2141      29.008  -5.282  65.359  1.00 32.72
ATOM   3119  CA  PRO  2141      29.402  -7.668  65.325  1.00 34.30
ATOM   3120  CB  PRO  2141      28.539  -7.232  64.139  1.00 33.67
ATOM   3121  CG  PRO  2141      28.926  -5.814  63.956  1.00 33.62
ATOM   3122  C   PRO  2141      30.754  -8.218  64.906  1.00 35.55
ATOM   3123  O   PRO  2141      31.623  -7.480  64.452  1.00 35.53
ATOM   3124  N   MET  2142      30.928  -9.521  65.074  1.00 37.33
ATOM   3125  CA  MET  2142      32.176 -10.179  64.715  1.00 39.79
ATOM   3126  CB  MET  2142      32.943 -10.565  65.967  1.00 39.15
ATOM   3127  CG  MET  2142      33.135  -9.422  66.920  1.00 39.66
ATOM   3128  SD  MET  2142      34.054  -9.913  68.362  1.00 40.40
ATOM   3129  CE  MET  2142      35.704  -9.868  67.690  1.00 40.72
ATOM   3130  C   MET  2142      31.846 -11.425  63.924  1.00 42.09
ATOM   3131  O   MET  2142      30.827 -12.072  64.175  1.00 42.54
ATOM   3132  N   SER  2143      32.694 -11.771  62.965  1.00 44.91
ATOM   3133  CA  SER  2143      32.431 -12.961  62.172  1.00 47.68
ATOM   3134  CB  SER  2143      33.448 -13.114  61.044  1.00 48.00
ATOM   3135  OG  SER  2143      34.728 -13.440  61.551  1.00 48.82
ATOM   3136  C   SER  2143      32.495 -14.171  63.090  1.00 49.84
ATOM   3137  O   SER  2143      33.140 -14.141  64.147  1.00 50.20
ATOM   3138  N   ALA  2144      31.803 -15.231  62.694  1.00 52.08
ATOM   3139  CA  ALA  2144      31.783 -16.450  63.483  1.00 54.70
ATOM   3140  CB  ALA  2144      30.354 -16.952  63.624  1.00 54.18
ATOM   3141  C   ALA  2144      32.646 -17.493  62.784  1.00 56.50
ATOM   3142  O   ALA  2144      32.246 -18.048  61.762  1.00 57.37
ATOM   3143  N   LYS  2145      33.830 -17.747  63.333  1.00 58.18
ATOM   3144  CA  LYS  2145      34.758 -18.714  62.759  1.00 59.52
ATOM   3145  CB  LYS  2145      35.673 -18.023  61.744  1.00 60.81
ATOM   3146  CG  LYS  2145      34.947 -17.467  60.526  1.00 62.29
ATOM   3147  CD  LYS  2145      35.500 -18.086  59.251  1.00 63.58
ATOM   3148  CE  LYS  2145      34.704 -17.657  58.029  1.00 65.22
ATOM   3149  NZ  LYS  2145      35.178 -18.363  56.796  1.00 66.48
ATOM   3150  C   LYS  2145      35.600 -19.356  63.857  1.00 59.80
ATOM   3151  O   LYS  2145      35.008 -20.141  64.630  1.00 60.14
ATOM   3152  C   GLY  3015      39.270  22.850  54.776  1.00 43.87
ATOM   3153  O   GLY  3015      39.856  21.896  54.243  1.00 44.03
ATOM   3154  N   GLY  3015      39.224  21.601  56.954  1.00 45.25
ATOM   3155  CA  GLY  3015      38.580  22.673  56.115  1.00 44.73
ATOM   3156  N   HIS  3016      39.205  24.055  54.213  1.00 42.94
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ATOM	3157	CA	HIS	3016	39.869	24.278	52.940	1.00	42.02
ATOM	3158	CB	HIS	3016	39.485	25.616	52.314	1.00	42.47
ATOM	3159	CG	HIS	3016	39.822	25.705	50.857	1.00	43.64
ATOM	3160	CD2	HIS	3016	39.085	26.107	49.792	1.00	43.67
ATOM	3161	ND1	HIS	3016	41.055	25.343	50.354	1.00	44.09
ATOM	3162	CE1	HIS	3016	41.063	25.519	49.044	1.00	44.44
ATOM	3163	NE2	HIS	3016	39.880	25.982	48.677	1.00	44.26
ATOM	3164	C	HIS	3016	41.369	24.241	53.176	1.00	40.94
ATOM	3165	O	HIS	3016	41.903	24.895	54.072	1.00	40.43
ATOM	3166	N	PHE	3017	42.045	23.443	52.371	1.00	40.37
ATOM	3167	CA	PHE	3017	43.477	23.296	52.483	1.00	40.05
ATOM	3168	CB	PHE	3017	43.963	22.244	51.475	1.00	37.48
ATOM	3169	CG	PHE	3017	43.885	22.676	50.044	1.00	35.09
ATOM	3170	CD1	PHE	3017	44.958	23.320	49.438	1.00	35.25
ATOM	3171	CD2	PHE	3017	42.748	22.435	49.291	1.00	34.83
ATOM	3172	CE1	PHE	3017	44.894	23.721	48.081	1.00	34.50
ATOM	3173	CE2	PHE	3017	42.670	22.830	47.941	1.00	34.11
ATOM	3174	CZ	PHE	3017	43.746	23.472	47.341	1.00	34.04
ATOM	3175	C	PHE	3017	44.218	24.617	52.307	1.00	40.50
ATOM	3176	O	PHE	3017	45.309	24.783	52.853	1.00	40.69
ATOM	3177	N	LYS	3018	43.630	25.571	51.581	1.00	41.05
ATOM	3178	CA	LYS	3018	44.333	26.832	51.389	1.00	41.60
ATOM	3179	CB	LYS	3018	43.811	27.608	50.165	1.00	41.82
ATOM	3180	CG	LYS	3018	42.436	28.247	50.250	1.00	42.73
ATOM	3181	CD	LYS	3018	42.185	29.011	48.950	1.00	42.35
ATOM	3182	CE	LYS	3018	40.804	29.657	48.887	1.00	43.03
ATOM	3183	NZ	LYS	3018	39.735	28.707	48.434	1.00	43.02
ATOM	3184	C	LYS	3018	44.384	27.712	52.634	1.00	41.78
ATOM	3185	O	LYS	3018	45.353	28.450	52.822	1.00	42.20
ATOM	3186	N	ASP	3019	43.380	27.602	53.502	1.00	41.37
ATOM	3187	CA	ASP	3019	43.337	28.389	54.732	1.00	40.93
ATOM	3188	CB	ASP	3019	41.999	28.188	55.463	1.00	42.41
ATOM	3189	CG	ASP	3019	40.777	28.417	54.568	1.00	43.93
ATOM	3190	OD1	ASP	3019	40.702	29.453	53.862	1.00	42.95
ATOM	3191	OD2	ASP	3019	39.874	27.545	54.596	1.00	45.23
ATOM	3192	C	ASP	3019	44.470	26.026	55.704	1.00	39.79
ATOM	3193	O	ASP	3019	45.089	26.965	55.598	1.00	39.09
ATOM	3194	N	PRO	3020	44.752	28.921	56.667	1.00	38.78
ATOM	3195	CD	PRO	3020	44.222	30.292	56.741	1.00	38.65
ATOM	3196	CA	PRO	3020	45.793	28.725	57.677	1.00	37.71
ATOM	3197	CB	PRO	3020	45.897	30.099	58.344	1.00	37.25
ATOM	3198	CG	PRO	3020	45.382	31.032	57.323	1.00	38.14
ATOM	3199	C	PRO	3020	45.296	27.682	58.663	1.00	36.52
ATOM	3200	O	PRO	3020	44.095	27.471	58.794	1.00	36.09
ATOM	3201	N	LYS	3021	46.215	27.047	59.370	1.00	35.52
ATOM	3202	CA	LYS	3021	45.829	26.049	60.339	1.00	35.33
ATOM	3203	CB	LYS	3021	46.047	24.652	59.757	1.00	35.26
ATOM	3204	CG	LYS	3021	45.160	24.336	58.578	1.00	36.74
ATOM	3205	CD	LYS	3021	45.388	22.931	58.042	1.00	37.25
ATOM	3206	CE	LYS	3021	44.335	22.594	56.989	1.00	38.30
ATOM	3207	NZ	LYS	3021	44.605	21.291	56.299	1.00	39.33
ATOM	3208	C	LYS	3021	46.639	26.195	61.616	1.00	35.00
ATOM	3209	O	LYS	3021	47.706	26.807	61.620	1.00	34.55
ATOM	3210	N	ARG	3022	46.107	25.648	62.702	1.00	34.14
ATOM	3211	CA	ARG	3022	46.799	25.640	63.978	1.00	33.44
ATOM	3212	CB	ARG	3022	45.866	26.064	65.110	1.00	34.60
ATOM	3213	CG	ARG	3022	45.507	27.532	65.133	1.00	36.57
ATOM	3214	CD	ARG	3022	44.636	27.838	66.334	1.00	38.46
ATOM	3215	NE	ARG	3022	43.230	28.048	65.996	1.00	41.22
ATOM	3216	CZ	ARG	3022	42.712	29.217	65.617	1.00	43.64
ATOM	3217	NH1	ARG	3022	43.481	30.299	65.522	1.00	43.54
ATOM	3218	NH2	ARG	3022	41.414	29.310	65.343	1.00	44.87

ATOM	3219	C	ARG	3022	47.195	24.181	64.176	1.00	32.71
ATOM	3220	O	ARG	3022	46.418	23.279	63.841	1.00	32.40
ATOM	3221	N	LEU	3023	48.399	23.939	64.687	1.00	31.39
ATOM	3222	CA	LEU	3023	48.828	22.573	64.933	1.00	30.33
ATOM	3223	CB	LEU	3023	50.207	22.314	64.329	1.00	29.42
ATOM	3224	CG	LEU	3023	50.230	22.316	62.801	1.00	28.69
ATOM	3225	CD1	LEU	3023	51.589	21.897	62.311	1.00	29.16
ATOM	3226	CD2	LEU	3023	49.185	21.359	62.272	1.00	29.24
ATOM	3227	C	LEU	3023	48.836	22.317	66.428	1.00	30.43
ATOM	3228	O	LEU	3023	49.716	22.782	67.149	1.00	31.69
ATOM	3229	N	TYR	3024	47.825	21.580	66.874	1.00	29.88
ATOM	3230	CA	TYR	3024	47.628	21.228	68.274	1.00	30.17
ATOM	3231	CB	TYR	3024	46.134	20.993	68.493	1.00	29.97
ATOM	3232	CG	TYR	3024	45.723	20.633	69.893	1.00	30.23
ATOM	3233	CD1	TYR	3024	45.670	19.303	70.307	1.00	29.34
ATOM	3234	CE1	TYR	3024	45.246	18.969	71.591	1.00	29.30
ATOM	3235	CD2	TYR	3024	45.347	21.627	70.805	1.00	30.96
ATOM	3236	CE2	TYR	3024	44.924	21.302	72.085	1.00	30.56
ATOM	3237	CZ	TYR	3024	44.874	19.971	72.469	1.00	30.35
ATOM	3238	OH	TYR	3024	44.437	19.658	73.731	1.00	31.23
ATOM	3239	C	TYR	3024	48.415	19.966	68.587	1.00	30.47
ATOM	3240	O	TYR	3024	48.134	18.914	68.021	1.00	31.61
ATOM	3241	N	CYS	3025	49.394	20.062	69.481	1.00	30.30
ATOM	3242	CA	CYS	3025	50.227	18.914	69.831	1.00	30.43
ATOM	3243	CB	CYS	3025	51.566	19.398	70.387	1.00	29.84
ATOM	3244	SG	CYS	3025	52.790	18.105	70.665	1.00	30.02
ATOM	3245	C	CYS	3025	49.532	18.024	70.851	1.00	31.50
ATOM	3246	O	CYS	3025	49.011	18.507	71.852	1.00	32.82
ATOM	3247	N	LYS	3026	49.530	16.721	70.603	1.00	31.99
ATOM	3248	CA	LYS	3026	48.875	15.785	71.505	1.00	32.28
ATOM	3249	CB	LYS	3026	48.889	14.366	70.931	1.00	32.14
ATOM	3250	CG	LYS	3026	48.124	13.362	71.785	1.00	31.13
ATOM	3251	CD	LYS	3026	48.256	11.950	71.261	1.00	31.04
ATOM	3252	CE	LYS	3026	47.376	10.991	72.054	1.00	31.54
ATOM	3253	NZ	LYS	3026	47.681	9.542	71.762	1.00	31.20
ATOM	3254	C	LYS	3026	49.549	15.761	72.855	1.00	33.71
ATOM	3255	O	LYS	3026	48.928	15.421	73.864	1.00	33.88
ATOM	3256	N	ASN	3027	50.822	16.128	72.872	1.00	34.85
ATOM	3257	CA	ASN	3027	51.598	16.118	74.100	1.00	35.21
ATOM	3258	CB	ASN	3027	53.069	15.892	73.771	1.00	36.01
ATOM	3259	CG	ASN	3027	53.906	15.644	75.005	1.00	37.05
ATOM	3260	OD1	ASN	3027	53.370	15.386	76.085	1.00	38.89
ATOM	3261	ND2	ASN	3027	55.228	15.702	74.852	1.00	36.55
ATOM	3262	C	ASN	3027	51.448	17.388	74.923	1.00	35.82
ATOM	3263	O	ASN	3027	52.299	18.276	74.874	1.00	36.50
ATOM	3264	N	GLY	3028	50.360	17.470	75.682	1.00	36.10
ATOM	3265	CA	GLY	3028	50.130	18.632	76.519	1.00	35.14
ATOM	3266	C	GLY	3028	49.125	19.614	75.965	1.00	35.38
ATOM	3267	O	GLY	3028	48.673	20.494	76.683	1.00	35.74
ATOM	3268	N	GLY	3029	48.773	19.480	74.692	1.00	34.83
ATOM	3269	CA	GLY	3029	47.811	20.397	74.116	1.00	34.70
ATOM	3270	C	GLY	3029	48.368	21.775	73.785	1.00	34.41
ATOM	3271	O	GLY	3029	47.653	22.777	73.859	1.00	34.46
ATOM	3272	N	PHE	3030	49.645	21.834	73.418	1.00	33.79
ATOM	3273	CA	PHE	3030	50.267	23.101	73.050	1.00	32.58
ATOM	3274	CB	PHE	3030	51.731	23.158	73.499	1.00	31.51
ATOM	3275	CG	PHE	3030	51.916	23.120	74.979	1.00	29.52
ATOM	3276	CD1	PHE	3030	52.106	21.909	75.639	1.00	29.11
ATOM	3277	CD2	PHE	3030	51.876	24.296	75.721	1.00	28.85
ATOM	3278	CE1	PHE	3030	52.255	21.869	77.029	1.00	28.80
ATOM	3279	CE2	PHE	3030	52.020	24.269	77.097	1.00	28.58
ATOM	3280	CZ	PHE	3030	52.212	23.050	77.758	1.00	28.72

ATOM	3281	C	PHE	3030	50.232	23.293	71.549	1.00	32.66
ATOM	3282	O	PHE	3030	50.523	22.366	70.796	1.00	32.83
ATOM	3283	N	PHE	3031	49.876	24.499	71.123	1.00	32.38
ATOM	3284	CA	PHE	3031	49.846	24.842	69.704	1.00	32.69
ATOM	3285	CB	PHE	3031	48.925	26.041	69.481	1.00	31.36
ATOM	3286	CG	PHE	3031	47.475	25.721	69.625	1.00	30.70
ATOM	3287	CD1	PHE	3031	46.814	24.996	68.645	1.00	30.66
ATOM	3288	CD2	PHE	3031	46.763	26.156	70.735	1.00	30.44
ATOM	3289	CE1	PHE	3031	45.462	24.711	68.763	1.00	31.15
ATOM	3290	CE2	PHE	3031	45.412	25.880	70.868	1.00	30.36
ATOM	3291	CZ	PHE	3031	44.756	25.154	69.875	1.00	31.24
ATOM	3292	C	PHE	3031	51.268	25.203	69.244	1.00	32.94
ATOM	3293	O	PHE	3031	52.003	25.879	69.961	1.00	33.02
ATOM	3294	N	LEU	3032	51.659	24.752	68.059	1.00	33.24
ATOM	3295	CA	LEU	3032	52.982	25.071	67.548	1.00	33.97
ATOM	3296	CB	LEU	3032	53.242	24.312	66.247	1.00	33.70
ATOM	3297	CG	LEU	3032	54.668	24.432	65.694	1.00	33.92
ATOM	3298	CD1	LEU	3032	55.669	23.894	66.717	1.00	32.95
ATOM	3299	CD2	LEU	3032	54.781	23.669	64.381	1.00	32.92
ATOM	3300	C	LEU	3032	53.010	26.581	67.294	1.00	34.80
ATOM	3301	O	LEU	3032	52.130	27.110	66.617	1.00	33.89
ATOM	3302	N	ARG	3033	54.015	27.265	67.846	1.00	35.98
ATOM	3303	CA	ARG	3033	54.132	28.711	67.704	1.00	36.45
ATOM	3304	CB	ARG	3033	53.969	29.383	69.062	1.00	36.94
ATOM	3305	CG	ARG	3033	54.148	30.894	69.020	1.00	36.96
ATOM	3306	CD	ARG	3033	53.667	31.538	70.312	1.00	35.82
ATOM	3307	NE	ARG	3033	54.437	31.076	71.463	1.00	35.91
ATOM	3308	CZ	ARG	3033	54.244	31.493	72.712	1.00	35.56
ATOM	3309	NH1	ARG	3033	53.297	32.389	72.979	1.00	34.92
ATOM	3310	NH2	ARG	3033	54.997	31.016	73.695	1.00	33.93
ATOM	3311	C	ARG	3033	55.429	29.190	67.088	1.00	37.34
ATOM	3312	O	ARG	3033	56.517	28.802	67.517	1.00	37.17
ATOM	3313	N	ILE	3034	55.290	30.050	66.084	1.00	38.29
ATOM	3314	CA	ILE	3034	56.416	30.638	65.369	1.00	39.19
ATOM	3315	CB	ILE	3034	56.208	30.604	63.840	1.00	39.20
ATOM	3316	CG2	ILE	3034	57.344	31.350	63.150	1.00	38.31
ATOM	3317	CG1	ILE	3034	56.084	29.165	63.339	1.00	39.01
ATOM	3318	CD1	ILE	3034	57.345	28.380	63.428	1.00	39.41
ATOM	3319	C	ILE	3034	56.474	32.109	65.746	1.00	40.28
ATOM	3320	O	ILE	3034	55.628	32.890	65.307	1.00	40.75
ATOM	3321	N	HIS	3035	57.462	32.489	66.547	1.00	41.64
ATOM	3322	CA	HIS	3035	57.621	33.883	66.959	1.00	43.21
ATOM	3323	CB	HIS	3035	58.529	33.961	68.180	1.00	43.78
ATOM	3324	CG	HIS	3035	57.870	33.550	69.455	1.00	44.79
ATOM	3325	CD2	HIS	3035	57.900	32.382	70.140	1.00	45.08
ATOM	3326	ND1	HIS	3035	57.078	34.407	70.191	1.00	44.77
ATOM	3327	CE1	HIS	3035	56.655	33.786	71.278	1.00	45.08
ATOM	3328	NE2	HIS	3035	57.139	32.556	71.271	1.00	45.86
ATOM	3329	C	HIS	3035	58.232	34.743	65.860	1.00	43.96
ATOM	3330	O	HIS	3035	59.040	34.268	65.062	1.00	43.75
ATOM	3331	N	PRO	3036	57.862	36.030	65.817	1.00	44.91
ATOM	3332	CD	PRO	3036	56.885	36.684	66.706	1.00	45.02
ATOM	3333	CA	PRO	3036	58.371	36.976	64.820	1.00	45.87
ATOM	3334	CB	PRO	3036	57.778	38.301	65.281	1.00	45.58
ATOM	3335	CG	PRO	3036	56.475	37.884	65.892	1.00	45.04
ATOM	3336	C	PRO	3036	59.901	37.013	64.789	1.00	46.93
ATOM	3337	O	PRO	3036	60.503	37.213	63.737	1.00	47.15
ATOM	3338	N	ASP	3037	60.526	36.807	65.944	1.00	48.32
ATOM	3339	CA	ASP	3037	61.985	36.829	66.030	1.00	49.80
ATOM	3340	CB	ASP	3037	62.420	37.251	67.428	1.00	51.06
ATOM	3341	CG	ASP	3037	61.964	36.280	68.487	1.00	52.96
ATOM	3342	OD1	ASP	3037	61.386	35.235	68.108	1.00	53.57

ATOM	3343	OD2	ASP	3037	62.181	36.557	69.689	1.00	53.50
ATOM	3344	C	ASP	3037	62.675	35.505	65.680	1.00	50.28
ATOM	3345	O	ASP	3037	63.896	35.387	65.815	1.00	50.87
ATOM	3346	N	GLY	3038	61.907	34.507	65.248	1.00	50.09
ATOM	3347	CA	GLY	3038	62.508	33.235	64.884	1.00	49.42
ATOM	3348	C	GLY	3038	62.446	32.149	65.942	1.00	49.27
ATOM	3349	O	GLY	3038	62.916	31.036	65.708	1.00	49.47
ATOM	3350	N	ARG	3039	61.871	32.455	67.101	1.00	48.78
ATOM	3351	CA	ARG	3039	61.761	31.468	68.170	1.00	48.40
ATOM	3352	CB	ARG	3039	61.658	32.162	69.532	1.00	49.72
ATOM	3353	CG	ARG	3039	62.964	32.773	70.010	1.00	51.91
ATOM	3354	CD	ARG	3039	62.872	33.317	71.434	1.00	53.71
ATOM	3355	NE	ARG	3039	61.972	34.467	71.553	1.00	55.03
ATOM	3356	CZ	ARG	3039	60.698	34.400	71.935	1.00	55.24
ATOM	3357	NH1	ARG	3039	59.974	35.514	72.005	1.00	55.06
ATOM	3358	NH2	ARG	3039	60.152	33.228	72.257	1.00	54.61
ATOM	3359	C	ARG	3039	60.549	30.567	67.962	1.00	47.46
ATOM	3360	O	ARG	3039	59.475	31.045	67.594	1.00	47.82
ATOM	3361	N	VAL	3040	60.728	29.268	68.194	1.00	45.77
ATOM	3362	CA	VAL	3040	59.645	28.299	68.043	1.00	44.63
ATOM	3363	CB	VAL	3040	59.968	27.230	66.967	1.00	44.49
ATOM	3364	CG1	VAL	3040	58.797	26.257	66.833	1.00	43.73
ATOM	3365	CG2	VAL	3040	60.250	27.889	65.637	1.00	44.68
ATOM	3366	C	VAL	3040	59.373	27.561	69.352	1.00	44.13
ATOM	3367	O	VAL	3040	60.286	27.016	69.975	1.00	43.72
ATOM	3368	N	ASP	3041	58.111	27.543	69.762	1.00	43.53
ATOM	3369	CA	ASP	3041	57.710	26.852	70.985	1.00	43.09
ATOM	3370	CB	ASP	3041	57.999	27.713	72.219	1.00	43.33
ATOM	3371	CG	ASP	3041	57.118	28.948	72.293	1.00	43.69
ATOM	3372	OD1	ASP	3041	57.136	29.620	73.346	1.00	44.37
ATOM	3373	OD2	ASP	3041	56.411	29.249	71.306	1.00	44.09
ATOM	3374	C	ASP	3041	56.218	26.553	70.918	1.00	42.82
ATOM	3375	O	ASP	3041	55.613	26.633	69.847	1.00	42.19
ATOM	3376	N	GLY	3042	55.628	26.227	72.066	1.00	42.21
ATOM	3377	CA	GLY	3042	54.207	25.934	72.105	1.00	42.24
ATOM	3378	C	GLY	3042	53.452	26.747	73.141	1.00	42.40
ATOM	3379	O	GLY	3042	54.025	27.195	74.132	1.00	42.44
ATOM	3380	N	VAL	3043	52.158	26.932	72.907	1.00	42.44
ATOM	3381	CA	VAL	3043	51.295	27.694	73.802	1.00	42.96
ATOM	3382	CB	VAL	3043	51.045	29.127	73.301	1.00	43.37
ATOM	3383	CG1	VAL	3043	51.277	30.131	74.421	1.00	43.42
ATOM	3384	CG2	VAL	3043	51.883	29.401	72.089	1.00	44.01
ATOM	3385	C	VAL	3043	49.937	27.044	73.765	1.00	43.12
ATOM	3386	O	VAL	3043	49.553	26.483	72.743	1.00	43.37
ATOM	3387	N	ARG	3044	49.197	27.163	74.859	1.00	43.20
ATOM	3388	CA	ARG	3044	47.866	26.594	74.939	1.00	43.44
ATOM	3389	CB	ARG	3044	47.578	26.157	76.369	1.00	42.93
ATOM	3390	CG	ARG	3044	48.401	24.989	76.870	1.00	43.13
ATOM	3391	CD	ARG	3044	47.491	24.144	77.729	1.00	42.95
ATOM	3392	NE	ARG	3044	48.096	22.920	78.225	1.00	43.60
ATOM	3393	CZ	ARG	3044	48.867	22.850	79.299	1.00	43.94
ATOM	3394	NH1	ARG	3044	49.136	23.952	79.989	1.00	44.31
ATOM	3395	NH2	ARG	3044	49.339	21.671	79.700	1.00	43.40
ATOM	3396	C	ARG	3044	46.785	27.573	74.498	1.00	44.18
ATOM	3397	O	ARG	3044	45.740	27.156	74.021	1.00	44.98
ATOM	3398	N	GLU	3045	47.025	28.872	74.655	1.00	45.38
ATOM	3399	CA	GLU	3045	46.006	29.850	74.282	1.00	46.95
ATOM	3400	CB	GLU	3045	46.369	31.257	74.781	1.00	48.46
ATOM	3401	CG	GLU	3045	45.293	32.310	74.475	1.00	51.18
ATOM	3402	CD	GLU	3045	43.933	32.026	75.142	1.00	53.25
ATOM	3403	OE1	GLU	3045	43.865	32.063	76.393	1.00	53.75
ATOM	3404	OE2	GLU	3045	42.932	31.774	74.416	1.00	53.34

ATOM	3405	C	GLU	3045	45.726	29.871	72.780	1.00	46.70
ATOM	3406	O	GLU	3045	46.562	30.274	71.973	1.00	45.91
ATOM	3407	N	LYS	3046	44.526	29.430	72.423	1.00	46.85
ATOM	3408	CA	LYS	3046	44.116	29.361	71.037	1.00	47.15
ATOM	3409	CB	LYS	3046	42.742	28.707	70.916	1.00	48.04
ATOM	3410	CG	LYS	3046	42.327	28.499	69.467	1.00	50.38
ATOM	3411	CD	LYS	3046	40.927	27.927	69.339	1.00	52.53
ATOM	3412	CE	LYS	3046	40.557	27.726	67.874	1.00	53.17
ATOM	3413	NZ	LYS	3046	39.180	27.181	67.721	1.00	54.74
ATOM	3414	C	LYS	3046	44.088	30.705	70.333	1.00	47.10
ATOM	3415	O	LYS	3046	44.144	30.760	69.105	1.00	47.26
ATOM	3416	N	SER	3047	44.011	31.789	71.100	1.00	47.49
ATOM	3417	CA	SER	3047	43.959	33.128	70.513	1.00	47.14
ATOM	3418	CB	SER	3047	43.127	34.056	71.397	1.00	46.20
ATOM	3419	OG	SER	3047	43.605	34.051	72.727	1.00	46.24
ATOM	3420	C	SER	3047	45.325	33.760	70.226	1.00	47.37
ATOM	3421	O	SER	3047	45.398	34.851	69.652	1.00	47.61
ATOM	3422	N	ASP	3048	46.403	33.082	70.617	1.00	46.88
ATOM	3423	CA	ASP	3048	47.742	33.594	70.351	1.00	46.89
ATOM	3424	CB	ASP	3048	48.787	32.564	70.796	1.00	46.86
ATOM	3425	CG	ASP	3048	50.219	33.082	70.687	1.00	47.31
ATOM	3426	OD1	ASP	3048	51.066	32.681	71.519	1.00	46.33
ATOM	3427	OD2	ASP	3048	50.502	33.876	69.765	1.00	47.57
ATOM	3428	C	ASP	3048	47.831	33.859	68.836	1.00	46.86
ATOM	3429	O	ASP	3048	47.414	33.032	68.025	1.00	47.10
ATOM	3430	N	PRO	3049	48.358	35.028	68.438	1.00	46.48
ATOM	3431	CD	PRO	3049	48.786	36.168	69.275	1.00	46.50
ATOM	3432	CA	PRO	3049	48.464	35.347	67.007	1.00	45.56
ATOM	3433	CB	PRO	3049	48.636	36.861	67.009	1.00	46.07
ATOM	3434	CG	PRO	3049	49.464	37.082	68.266	1.00	47.16
ATOM	3435	C	PRO	3049	49.579	34.649	66.234	1.00	44.55
ATOM	3436	O	PRO	3049	49.539	34.594	65.006	1.00	44.85
ATOM	3437	N	HIS	3050	50.563	34.104	66.940	1.00	43.58
ATOM	3438	CA	HIS	3050	51.686	33.450	66.276	1.00	42.36
ATOM	3439	CB	HIS	3050	52.983	33.747	67.015	1.00	43.14
ATOM	3440	CG	HIS	3050	53.173	35.194	67.329	1.00	44.43
ATOM	3441	CD2	HIS	3050	53.439	35.825	68.497	1.00	44.84
ATOM	3442	ND1	HIS	3050	53.095	36.179	66.369	1.00	45.12
ATOM	3443	CE1	HIS	3050	53.305	37.355	66.931	1.00	46.07
ATOM	3444	NE2	HIS	3050	53.516	37.168	68.222	1.00	46.13
ATOM	3445	C	HIS	3050	51.576	31.952	66.115	1.00	41.17
ATOM	3446	O	HIS	3050	52.597	31.281	65.960	1.00	41.43
ATOM	3447	N	ILE	3051	50.362	31.415	66.158	1.00	39.64
ATOM	3448	CA	ILE	3051	50.198	29.979	65.995	1.00	38.07
ATOM	3449	CB	ILE	3051	49.519	29.327	67.232	1.00	36.79
ATOM	3450	CG2	ILE	3051	50.350	29.601	68.463	1.00	35.71
ATOM	3451	CG1	ILE	3051	48.108	29.876	67.437	1.00	36.28
ATOM	3452	CD1	ILE	3051	47.340	29.199	68.556	1.00	35.71
ATOM	3453	C	ILE	3051	49.428	29.669	64.717	1.00	38.09
ATOM	3454	O	ILE	3051	49.241	28.509	64.366	1.00	38.24
ATOM	3455	N	LYS	3052	48.985	30.716	64.026	1.00	37.53
ATOM	3456	CA	LYS	3052	48.287	30.539	62.763	1.00	37.74
ATOM	3457	CB	LYS	3052	47.504	31.801	62.394	1.00	38.81
ATOM	3458	CG	LYS	3052	46.326	32.052	63.344	1.00	40.63
ATOM	3459	CD	LYS	3052	45.191	32.817	62.674	1.00	41.29
ATOM	3460	CE	LYS	3052	43.930	32.777	63.537	1.00	42.64
ATOM	3461	NZ	LYS	3052	42.700	33.226	62.798	1.00	43.00
ATOM	3462	C	LYS	3052	49.379	30.248	61.744	1.00	36.94
ATOM	3463	O	LYS	3052	50.222	31.097	61.460	1.00	36.70
ATOM	3464	N	LEU	3053	49.368	29.031	61.216	1.00	35.75
ATOM	3465	CA	LEU	3053	50.385	28.593	60.278	1.00	34.26
ATOM	3466	CB	LEU	3053	51.042	27.320	60.813	1.00	32.88

ATOM	3467	CG	LEU	3053	51.320	27.279	62.320	1.00	32.14
ATOM	3468	CD1	LEU	3053	51.970	25.957	62.679	1.00	32.01
ATOM	3469	CD2	LEU	3053	52.209	28.439	62.729	1.00	31.66
ATOM	3470	C	LEU	3053	49.842	28.327	58.880	1.00	34.38
ATOM	3471	O	LEU	3053	48.668	28.024	58.694	1.00	34.66
ATOM	3472	N	GLN	3054	50.713	28.441	57.891	1.00	34.09
ATOM	3473	CA	GLN	3054	50.315	28.188	56.526	1.00	33.75
ATOM	3474	CB	GLN	3054	50.600	29.408	55.662	1.00	34.84
ATOM	3475	CG	GLN	3054	50.064	29.266	54.258	1.00	36.90
ATOM	3476	CD	GLN	3054	48.560	29.067	54.239	1.00	37.93
ATOM	3477	OE1	GLN	3054	47.790	30.028	54.245	1.00	37.57
ATOM	3478	NE2	GLN	3054	48.134	27.807	54.236	1.00	40.03
ATOM	3479	C	GLN	3054	51.115	26.994	56.031	1.00	33.08
ATOM	3480	O	GLN	3054	52.310	27.104	55.800	1.00	32.80
ATOM	3481	N	LEU	3055	50.458	25.844	55.898	1.00	32.84
ATOM	3482	CA	LEU	3055	51.130	24.639	55.436	1.00	31.57
ATOM	3483	CB	LEU	3055	50.527	23.389	56.069	1.00	32.17
ATOM	3484	CG	LEU	3055	50.354	23.353	57.592	1.00	33.60
ATOM	3485	CD1	LEU	3055	49.949	21.946	58.000	1.00	34.08
ATOM	3486	CD2	LEU	3055	51.626	23.747	58.295	1.00	33.96
ATOM	3487	C	LEU	3055	50.979	24.582	53.937	1.00	31.32
ATOM	3488	O	LEU	3055	49.872	24.571	53.410	1.00	32.02
ATOM	3489	N	GLN	3056	52.110	24.563	53.253	1.00	31.15
ATOM	3490	CA	GLN	3056	52.128	24.539	51.798	1.00	30.82
ATOM	3491	CB	GLN	3056	52.769	25.820	51.270	1.00	29.37
ATOM	3492	CG	GLN	3056	52.975	25.840	49.788	1.00	30.22
ATOM	3493	CD	GLN	3056	51.667	25.849	49.013	1.00	30.34
ATOM	3494	OE1	GLN	3056	50.859	26.764	49.155	1.00	30.39
ATOM	3495	NE2	GLN	3056	51.464	24.837	48.177	1.00	28.72
ATOM	3496	C	GLN	3056	52.898	23.341	51.263	1.00	31.21
ATOM	3497	O	GLN	3056	54.059	23.125	51.612	1.00	31.76
ATOM	3498	N	ALA	3057	52.251	22.563	50.411	1.00	31.42
ATOM	3499	CA	ALA	3057	52.905	21.410	49.828	1.00	32.68
ATOM	3500	CB	ALA	3057	51.876	20.496	49.194	1.00	32.40
ATOM	3501	C	ALA	3057	53.898	21.893	48.773	1.00	33.28
ATOM	3502	O	ALA	3057	53.577	22.769	47.972	1.00	33.33
ATOM	3503	N	GLU	3058	55.106	21.337	48.790	1.00	33.43
ATOM	3504	CA	GLU	3058	56.122	21.707	47.818	1.00	34.14
ATOM	3505	CB	GLU	3058	57.494	21.793	48.490	1.00	34.57
ATOM	3506	CG	GLU	3058	58.554	22.591	47.704	1.00	35.75
ATOM	3507	CD	GLU	3058	58.123	24.035	47.373	1.00	36.06
ATOM	3508	OE1	GLU	3058	57.646	24.753	48.278	1.00	35.34
ATOM	3509	OE2	GLU	3058	58.277	24.455	46.202	1.00	36.63
ATOM	3510	C	GLU	3058	56.087	20.622	46.748	1.00	34.36
ATOM	3511	O	GLU	3058	56.423	20.849	45.592	1.00	34.43
ATOM	3512	N	GLU	3059	55.661	19.438	47.168	1.00	34.56
ATOM	3513	CA	GLU	3059	55.508	18.283	46.295	1.00	34.61
ATOM	3514	CB	GLU	3059	56.872	17.683	45.909	1.00	35.10
ATOM	3515	CG	GLU	3059	57.648	17.011	47.016	1.00	37.26
ATOM	3516	CD	GLU	3059	59.074	16.676	46.595	1.00	38.48
ATOM	3517	OE1	GLU	3059	59.856	17.628	46.351	1.00	38.84
ATOM	3518	OE2	GLU	3059	59.412	15.470	46.501	1.00	38.95
ATOM	3519	C	GLU	3059	54.660	17.301	47.089	1.00	33.62
ATOM	3520	O	GLU	3059	54.314	17.576	48.227	1.00	33.74
ATOM	3521	N	ARG	3060	54.321	16.171	46.491	1.00	32.97
ATOM	3522	CA	ARG	3060	53.491	15.180	47.151	1.00	32.79
ATOM	3523	CB	ARG	3060	53.379	13.951	46.240	1.00	32.92
ATOM	3524	CG	ARG	3060	52.365	12.936	46.696	1.00	34.05
ATOM	3525	CD	ARG	3060	52.415	11.684	45.846	1.00	35.21
ATOM	3526	NE	ARG	3060	51.771	10.570	46.535	1.00	37.38
ATOM	3527	CZ	ARG	3060	51.790	9.316	46.105	1.00	38.21
ATOM	3528	NH1	ARG	3060	52.419	9.014	44.980	1.00	38.75

ATOM	3529	NH2	ARG	3060	51.199	8.361	46.814	1.00	39.26
ATOM	3530	C	ARG	3060	53.988	14.777	48.550	1.00	31.96
ATOM	3531	O	ARG	3060	55.104	14.291	48.708	1.00	31.33
ATOM	3532	N	GLY	3061	53.152	15.001	49.560	1.00	31.18
ATOM	3533	CA	GLY	3061	53.499	14.630	50.917	1.00	30.00
ATOM	3534	C	GLY	3061	54.552	15.465	51.612	1.00	29.89
ATOM	3535	O	GLY	3061	54.901	15.183	52.768	1.00	29.97
ATOM	3536	N	VAL	3062	55.064	16.485	50.927	1.00	28.74
ATOM	3537	CA	VAL	3062	56.086	17.344	51.513	1.00	28.56
ATOM	3538	CB	VAL	3062	57.378	17.355	50.662	1.00	29.32
ATOM	3539	CG1	VAL	3062	58.445	18.189	51.361	1.00	28.02
ATOM	3540	CG2	VAL	3062	57.868	15.928	50.431	1.00	28.21
ATOM	3541	C	VAL	3062	55.584	18.774	51.650	1.00	28.15
ATOM	3542	O	VAL	3062	55.147	19.377	50.675	1.00	28.13
ATOM	3543	N	VAL	3063	55.660	19.315	52.862	1.00	27.50
ATOM	3544	CA	VAL	3063	55.189	20.669	53.123	1.00	27.18
ATOM	3545	CB	VAL	3063	53.949	20.683	54.058	1.00	26.17
ATOM	3546	CG1	VAL	3063	52.833	19.830	53.484	1.00	26.29
ATOM	3547	CG2	VAL	3063	54.342	20.201	55.438	1.00	24.81
ATOM	3548	C	VAL	3063	56.202	21.572	53.806	1.00	28.09
ATOM	3549	O	VAL	3063	57.218	21.120	54.350	1.00	28.46
ATOM	3550	N	SER	3064	55.895	22.863	53.777	1.00	28.28
ATOM	3551	CA	SER	3064	56.693	23.881	54.441	1.00	28.12
ATOM	3552	CB	SER	3064	57.116	24.979	53.460	1.00	27.42
ATOM	3553	OG	SER	3064	56.046	25.873	53.198	1.00	26.90
ATOM	3554	C	SER	3064	55.678	24.445	55.443	1.00	28.57
ATOM	3555	O	SER	3064	54.472	24.457	55.169	1.00	28.91
ATOM	3556	N	ILE	3065	56.153	24.898	56.592	1.00	28.30
ATOM	3557	CA	ILE	3065	55.271	25.436	57.619	1.00	28.82
ATOM	3558	CB	ILE	3065	55.374	24.586	58.928	1.00	27.57
ATOM	3559	CG2	ILE	3065	54.543	25.206	60.034	1.00	25.09
ATOM	3560	CG1	ILE	3065	54.950	23.141	58.630	1.00	26.69
ATOM	3561	CD1	ILE	3065	55.331	22.113	59.713	1.00	24.99
ATOM	3562	C	ILE	3065	55.663	26.885	57.901	1.00	30.19
ATOM	3563	O	ILE	3065	56.713	27.165	58.477	1.00	30.93
ATOM	3564	N	LYS	3066	54.811	27.806	57.488	1.00	31.05
ATOM	3565	CA	LYS	3066	55.083	29.210	57.680	1.00	32.25
ATOM	3566	CB	LYS	3066	54.947	29.929	56.333	1.00	33.41
ATOM	3567	CG	LYS	3066	54.965	31.448	56.419	1.00	35.49
ATOM	3568	CD	LYS	3066	54.891	32.097	55.042	1.00	36.65
ATOM	3569	CE	LYS	3066	54.678	33.603	55.189	1.00	38.51
ATOM	3570	NZ	LYS	3066	54.835	34.366	53.915	1.00	39.94
ATOM	3571	C	LYS	3066	54.193	29.874	58.731	1.00	32.84
ATOM	3572	O	LYS	3066	52.964	29.754	58.692	1.00	31.87
ATOM	3573	N	GLY	3067	54.829	30.560	59.683	1.00	33.82
ATOM	3574	CA	GLY	3067	54.090	31.275	60.711	1.00	34.94
ATOM	3575	C	GLY	3067	53.614	32.563	60.063	1.00	36.00
ATOM	3576	O	GLY	3067	54.424	33.424	59.756	1.00	36.30
ATOM	3577	N	VAL	3068	52.309	32.689	59.841	1.00	36.83
ATOM	3578	CA	VAL	3068	51.748	33.861	59.183	1.00	37.77
ATOM	3579	CB	VAL	3068	50.211	33.871	59.242	1.00	37.69
ATOM	3580	CG1	VAL	3068	49.683	35.127	58.552	1.00	36.95
ATOM	3581	CG2	VAL	3068	49.652	32.624	58.574	1.00	37.29
ATOM	3582	C	VAL	3068	52.226	35.208	59.694	1.00	38.84
ATOM	3583	O	VAL	3068	52.812	35.979	58.936	1.00	39.91
ATOM	3584	N	SER	3069	51.975	35.511	60.964	1.00	39.30
ATOM	3585	CA	SER	3069	52.396	36.805	61.475	1.00	39.93
ATOM	3586	CB	SER	3069	51.687	37.146	62.808	1.00	39.67
ATOM	3587	OG	SER	3069	52.335	36.611	63.942	1.00	40.20
ATOM	3588	C	SER	3069	53.917	36.939	61.599	1.00	39.81
ATOM	3589	O	SER	3069	54.452	38.024	61.418	1.00	40.29
ATOM	3590	N	ALA	3070	54.622	35.855	61.885	1.00	39.95

ATOM	3591	CA	ALA	3070	56.077	35.955	61.993	1.00	40.08
ATOM	3592	CB	ALA	3070	56.637	34.772	62.756	1.00	39.80
ATOM	3593	C	ALA	3070	56.739	36.040	60.616	1.00	40.33
ATOM	3594	O	ALA	3070	57.894	36.452	60.499	1.00	40.24
ATOM	3595	N	ASN	3071	55.998	35.657	59.579	1.00	40.38
ATOM	3596	CA	ASN	3071	56.498	35.660	58.205	1.00	40.07
ATOM	3597	CB	ASN	3071	56.754	37.089	57.710	1.00	40.54
ATOM	3598	CG	ASN	3071	56.686	37.208	56.179	1.00	41.80
ATOM	3599	OD1	ASN	3071	56.789	36.214	55.456	1.00	42.23
ATOM	3600	ND2	ASN	3071	56.516	38.431	55.688	1.00	41.81
ATOM	3601	C	ASN	3071	57.795	34.859	58.102	1.00	40.04
ATOM	3602	O	ASN	3071	58.704	35.230	57.364	1.00	40.69
ATOM	3603	N	ARG	3072	57.882	33.761	58.847	1.00	39.57
ATOM	3604	CA	ARG	3072	59.068	32.915	58.828	1.00	38.51
ATOM	3605	CB	ARG	3072	59.833	33.057	60.134	1.00	38.85
ATOM	3606	CG	ARG	3072	60.284	34.458	60.451	1.00	38.92
ATOM	3607	CD	ARG	3072	60.985	34.474	61.797	1.00	39.72
ATOM	3608	NE	ARG	3072	61.722	35.711	62.020	1.00	39.77
ATOM	3609	CZ	ARG	3072	63.038	35.835	61.874	1.00	39.87
ATOM	3610	NH1	ARG	3072	63.779	34.795	61.502	1.00	39.94
ATOM	3611	NH2	ARG	3072	63.614	37.003	62.109	1.00	39.73
ATOM	3612	C	ARG	3072	58.674	31.453	58.641	1.00	38.21
ATOM	3613	O	ARG	3072	57.569	31.050	59.001	1.00	38.04
ATOM	3614	N	TYR	3073	59.586	30.663	58.084	1.00	37.44
ATOM	3615	CA	TYR	3073	59.335	29.244	57.852	1.00	36.55
ATOM	3616	CB	TYR	3073	59.843	28.815	56.480	1.00	35.14
ATOM	3617	CG	TYR	3073	59.228	29.577	55.344	1.00	34.29
ATOM	3618	CD1	TYR	3073	59.626	30.884	55.057	1.00	34.30
ATOM	3619	CE1	TYR	3073	59.042	31.594	54.020	1.00	34.12
ATOM	3620	CD2	TYR	3073	58.231	29.000	54.562	1.00	33.18
ATOM	3621	CE2	TYR	3073	57.643	29.693	53.527	1.00	33.26
ATOM	3622	CZ	TYR	3073	58.048	30.986	53.258	1.00	34.05
ATOM	3623	OH	TYR	3073	57.451	31.667	52.234	1.00	34.61
ATOM	3624	C	TYR	3073	60.012	28.380	58.891	1.00	35.96
ATOM	3625	O	TYR	3073	61.155	28.633	59.269	1.00	37.99
ATOM	3626	N	LEU	3074	59.315	27.348	59.346	1.00	36.71
ATOM	3627	CA	LEU	3074	59.890	26.456	60.338	1.00	36.55
ATOM	3628	CB	LEU	3074	58.833	25.501	60.887	1.00	36.70
ATOM	3629	CG	LEU	3074	59.327	24.591	62.014	1.00	36.08
ATOM	3630	CD1	LEU	3074	59.342	25.402	63.308	1.00	36.24
ATOM	3631	CD2	LEU	3074	58.425	23.350	62.153	1.00	35.50
ATOM	3632	C	LEU	3074	61.014	25.654	59.692	1.00	36.84
ATOM	3633	O	LEU	3074	60.900	25.200	58.552	1.00	35.51
ATOM	3634	N	ALA	3075	62.101	25.484	60.436	1.00	38.12
ATOM	3635	CA	ALA	3075	63.259	24.744	59.951	1.00	39.17
ATOM	3636	CB	ALA	3075	64.300	25.710	59.379	1.00	38.85
ATOM	3637	C	ALA	3075	63.870	23.959	61.087	1.00	39.54
ATOM	3638	O	ALA	3075	63.848	24.404	62.227	1.00	40.34
ATOM	3639	N	MET	3076	64.400	22.784	60.771	1.00	40.43
ATOM	3640	CA	MET	3076	65.053	21.948	61.767	1.00	41.46
ATOM	3641	CB	MET	3076	64.456	20.540	61.798	1.00	40.39
ATOM	3642	CG	MET	3076	65.075	19.688	62.893	1.00	40.68
ATOM	3643	SD	MET	3076	64.362	18.062	63.123	1.00	40.51
ATOM	3644	CE	MET	3076	65.209	17.227	61.954	1.00	41.15
ATOM	3645	C	MET	3076	66.529	21.872	61.397	1.00	42.83
ATOM	3646	O	MET	3076	66.878	21.581	60.252	1.00	42.41
ATOM	3647	N	LYS	3077	67.395	22.123	62.372	1.00	44.33
ATOM	3648	CA	LYS	3077	68.828	22.122	62.126	1.00	45.26
ATOM	3649	CB	LYS	3077	69.486	23.097	63.091	1.00	45.85
ATOM	3650	CG	LYS	3077	68.786	24.451	63.140	1.00	46.46
ATOM	3651	CD	LYS	3077	68.690	25.084	61.760	1.00	46.81
ATOM	3652	CE	LYS	3077	70.071	25.269	61.139	1.00	46.97

ATOM	3653	NZ	LYS	3077	69.998	25.859	59.775	1.00	46.20
ATOM	3654	C	LYS	3077	69.487	20.749	62.222	1.00	45.55
ATOM	3655	O	LYS	3077	68.845	19.767	62.584	1.00	45.67
ATOM	3656	N	GLU	3078	70.774	20.698	61.889	1.00	45.60
ATOM	3657	CA	GLU	3078	71.547	19.460	61.915	1.00	46.22
ATOM	3658	CB	GLU	3078	72.958	19.703	61.368	1.00	46.38
ATOM	3659	CG	GLU	3078	73.839	20.534	62.288	1.00	46.71
ATOM	3660	CD	GLU	3078	73.426	21.988	62.350	1.00	47.56
ATOM	3661	OE1	GLU	3078	73.551	22.599	63.433	1.00	47.08
ATOM	3662	OE2	GLU	3078	72.990	22.524	61.307	1.00	48.41
ATOM	3663	C	GLU	3078	71.649	18.839	63.308	1.00	46.26
ATOM	3664	O	GLU	3078	71.840	17.631	63.437	1.00	46.11
ATOM	3665	N	ASP	3079	71.539	19.663	64.346	1.00	46.55
ATOM	3666	CA	ASP	3079	71.613	19.164	65.720	1.00	46.41
ATOM	3667	CB	ASP	3079	72.210	20.229	66.651	1.00	46.70
ATOM	3668	CG	ASP	3079	71.386	21.500	66.688	1.00	47.53
ATOM	3669	OD1	ASP	3079	71.717	22.407	67.482	1.00	48.21
ATOM	3670	OD2	ASP	3079	70.406	21.593	65.918	1.00	48.26
ATOM	3671	C	ASP	3079	70.223	18.755	66.223	1.00	45.67
ATOM	3672	O	ASP	3079	70.095	18.102	67.262	1.00	45.13
ATOM	3673	N	GLY	3080	69.188	19.149	65.480	1.00	44.71
ATOM	3674	CA	GLY	3080	67.830	18.800	65.853	1.00	43.08
ATOM	3675	C	GLY	3080	67.004	19.931	66.425	1.00	42.34
ATOM	3676	O	GLY	3080	65.816	19.762	66.673	1.00	41.81
ATOM	3677	N	ARG	3081	67.614	21.093	66.638	1.00	42.18
ATOM	3678	CA	ARG	3081	66.862	22.209	67.199	1.00	40.95
ATOM	3679	CB	ARG	3081	67.798	23.257	67.828	1.00	41.24
ATOM	3680	CG	ARG	3081	68.640	24.040	66.865	1.00	40.94
ATOM	3681	CD	ARG	3081	69.351	25.211	67.542	1.00	40.92
ATOM	3682	NE	ARG	3081	69.923	26.095	66.531	1.00	41.22
ATOM	3683	CZ	ARG	3081	70.849	25.718	65.651	1.00	41.42
ATOM	3684	NH1	ARG	3081	71.325	24.478	65.667	1.00	40.19
ATOM	3685	NH2	ARG	3081	71.266	26.562	64.718	1.00	41.75
ATOM	3686	C	ARG	3081	65.972	22.840	66.144	1.00	39.61
ATOM	3687	O	ARG	3081	66.208	22.691	64.944	1.00	38.72
ATOM	3688	N	LEU	3082	64.932	23.527	66.602	1.00	38.75
ATOM	3689	CA	LEU	3082	63.977	24.171	65.706	1.00	37.74
ATOM	3690	CB	LEU	3082	62.549	23.777	66.079	1.00	35.64
ATOM	3691	CG	LEU	3082	62.113	22.318	66.035	1.00	33.29
ATOM	3692	CD1	LEU	3082	60.630	22.251	66.353	1.00	32.47
ATOM	3693	CD2	LEU	3082	62.377	21.729	64.666	1.00	32.11
ATOM	3694	C	LEU	3082	64.072	25.682	65.745	1.00	38.14
ATOM	3695	O	LEU	3082	64.391	26.269	66.776	1.00	38.98
ATOM	3696	N	LEU	3083	63.780	26.313	64.619	1.00	38.47
ATOM	3697	CA	LEU	3083	63.808	27.763	64.545	1.00	39.01
ATOM	3698	CB	LEU	3083	65.255	28.271	64.500	1.00	38.86
ATOM	3699	CG	LEU	3083	66.229	27.792	63.422	1.00	38.86
ATOM	3700	CD1	LEU	3083	65.852	28.379	62.068	1.00	39.17
ATOM	3701	CD2	LEU	3083	67.631	28.239	63.797	1.00	38.83
ATOM	3702	C	LEU	3083	63.043	28.185	63.311	1.00	39.17
ATOM	3703	O	LEU	3083	62.773	27.359	62.448	1.00	39.05
ATOM	3704	N	ALA	3084	62.679	29.460	63.231	1.00	39.49
ATOM	3705	CA	ALA	3084	61.940	29.946	62.075	1.00	40.69
ATOM	3706	CB	ALA	3084	60.661	30.671	62.517	1.00	40.89
ATOM	3707	C	ALA	3084	62.808	30.855	61.210	1.00	41.31
ATOM	3708	O	ALA	3084	63.125	31.991	61.572	1.00	41.89
ATOM	3709	N	SER	3085	63.182	30.320	60.059	1.00	41.13
ATOM	3710	CA	SER	3085	64.016	30.994	59.081	1.00	41.28
ATOM	3711	CB	SER	3085	64.605	29.914	58.170	1.00	41.02
ATOM	3712	OG	SER	3085	65.154	30.443	56.989	1.00	42.75
ATOM	3713	C	SER	3085	63.215	32.012	58.267	1.00	41.63
ATOM	3714	O	SER	3085	62.039	31.799	57.978	1.00	41.39

ATOM	3715	N	LYS	3086	63.851	33.119	57.893	1.00	42.23
ATOM	3716	CA	LYS	3086	63.185	34.148	57.101	1.00	42.36
ATOM	3717	CB	LYS	3086	63.926	35.487	57.227	1.00	43.35
ATOM	3718	CG	LYS	3086	63.208	36.676	56.590	1.00	44.87
ATOM	3719	CD	LYS	3086	61.900	37.057	57.325	1.00	46.41
ATOM	3720	CE	LYS	3086	61.100	38.119	56.533	1.00	47.44
ATOM	3721	NZ	LYS	3086	59.894	38.663	57.241	1.00	47.24
ATOM	3722	C	LYS	3086	63.109	33.715	55.640	1.00	41.96
ATOM	3723	O	LYS	3086	62.189	34.092	54.923	1.00	41.53
ATOM	3724	N	SER	3087	64.068	32.911	55.201	1.00	41.87
ATOM	3725	CA	SER	3087	64.065	32.436	53.823	1.00	42.60
ATOM	3726	CB	SER	3087	65.348	32.872	53.100	1.00	43.24
ATOM	3727	OG	SER	3087	66.484	32.166	53.582	1.00	44.56
ATOM	3728	C	SER	3087	63.936	30.912	53.784	1.00	42.46
ATOM	3729	O	SER	3087	64.232	30.231	54.763	1.00	42.59
ATOM	3730	N	VAL	3088	63.505	30.381	52.646	1.00	42.17
ATOM	3731	CA	VAL	3088	63.318	28.945	52.498	1.00	41.98
ATOM	3732	CB	VAL	3088	62.270	28.639	51.419	1.00	41.66
ATOM	3733	CG1	VAL	3088	62.195	27.144	51.186	1.00	42.36
ATOM	3734	CG2	VAL	3088	60.914	29.186	51.840	1.00	41.06
ATOM	3735	C	VAL	3088	64.578	28.185	52.139	1.00	42.05
ATOM	3736	O	VAL	3088	65.212	28.480	51.138	1.00	42.63
ATOM	3737	N	THR	3089	64.937	27.200	52.953	1.00	42.64
ATOM	3738	CA	THR	3089	66.116	26.381	52.677	1.00	43.00
ATOM	3739	CB	THR	3089	67.221	26.554	53.723	1.00	43.23
ATOM	3740	OG1	THR	3089	66.889	25.793	54.891	1.00	44.39
ATOM	3741	CG2	THR	3089	67.379	28.015	54.094	1.00	43.24
ATOM	3742	C	THR	3089	65.670	24.931	52.710	1.00	43.33
ATOM	3743	O	THR	3089	64.529	24.640	53.068	1.00	43.41
ATOM	3744	N	ASP	3090	66.560	24.014	52.346	1.00	43.54
ATOM	3745	CA	ASP	3090	66.186	22.607	52.337	1.00	43.60
ATOM	3746	CB	ASP	3090	67.266	21.763	51.658	1.00	44.79
ATOM	3747	CG	ASP	3090	68.630	21.940	52.286	1.00	47.12
ATOM	3748	OD1	ASP	3090	68.765	22.784	53.205	1.00	47.64
ATOM	3749	OD2	ASP	3090	69.571	21.231	51.846	1.00	48.18
ATOM	3750	C	ASP	3090	65.867	22.047	53.720	1.00	42.60
ATOM	3751	O	ASP	3090	65.414	20.917	53.838	1.00	43.28
ATOM	3752	N	GLU	3091	66.091	22.836	54.764	1.00	41.23
ATOM	3753	CA	GLU	3091	65.790	22.394	56.122	1.00	40.12
ATOM	3754	CB	GLU	3091	66.802	22.967	57.115	1.00	39.75
ATOM	3755	CG	GLU	3091	68.236	22.519	56.911	1.00	39.82
ATOM	3756	CD	GLU	3091	69.180	23.181	57.904	1.00	39.95
ATOM	3757	OE1	GLU	3091	69.192	24.431	57.967	1.00	39.67
ATOM	3758	OE2	GLU	3091	69.906	22.459	58.622	1.00	39.35
ATOM	3759	C	GLU	3091	64.384	22.841	56.543	1.00	39.14
ATOM	3760	O	GLU	3091	64.003	22.710	57.707	1.00	38.75
ATOM	3761	N	CYS	3092	63.620	23.362	55.592	1.00	37.51
ATOM	3762	CA	CYS	3092	62.278	23.844	55.874	1.00	35.78
ATOM	3763	CB	CYS	3092	62.100	25.236	55.279	1.00	35.93
ATOM	3764	SG	CYS	3092	63.209	26.450	55.977	1.00	35.58
ATOM	3765	C	CYS	3092	61.177	22.940	55.353	1.00	34.53
ATOM	3766	O	CYS	3092	60.006	23.304	55.404	1.00	33.70
ATOM	3767	N	PHE	3093	61.547	21.767	54.856	1.00	33.56
ATOM	3768	CA	PHE	3093	60.561	20.851	54.318	1.00	32.68
ATOM	3769	CB	PHE	3093	60.899	20.547	52.862	1.00	33.28
ATOM	3770	CG	PHE	3093	60.855	21.762	51.988	1.00	34.25
ATOM	3771	CD1	PHE	3093	59.637	22.328	51.631	1.00	34.91
ATOM	3772	CD2	PHE	3093	62.030	22.402	51.605	1.00	34.79
ATOM	3773	CE1	PHE	3093	59.585	23.515	50.914	1.00	35.42
ATOM	3774	CE2	PHE	3093	61.995	23.592	50.889	1.00	34.42
ATOM	3775	CZ	PHE	3093	60.771	24.151	50.544	1.00	35.85
ATOM	3776	C	PHE	3093	60.407	19.590	55.139	1.00	32.10

ATOM	3777	O	PHE	3093	61.386	19.004	55.607	1.00	32.02
ATOM	3778	N	PHE	3094	59.154	19.185	55.313	1.00	30.72
ATOM	3779	CA	PHE	3094	58.823	18.021	56.115	1.00	29.42
ATOM	3780	CB	PHE	3094	58.234	18.492	57.435	1.00	27.90
ATOM	3781	CG	PHE	3094	59.118	19.444	58.176	1.00	27.67
ATOM	3782	CD1	PHE	3094	60.093	18.972	59.051	1.00	27.64
ATOM	3783	CD2	PHE	3094	59.009	20.813	57.975	1.00	26.67
ATOM	3784	CE1	PHE	3094	60.938	19.851	59.710	1.00	27.53
ATOM	3785	CE2	PHE	3094	59.852	21.697	58.630	1.00	26.63
ATOM	3786	CZ	PHE	3094	60.817	21.218	59.498	1.00	26.89
ATOM	3787	C	PHE	3094	57.825	17.109	55.440	1.00	29.46
ATOM	3788	O	PHE	3094	56.974	17.559	54.675	1.00	30.00
ATOM	3789	N	PHE	3095	57.940	15.819	55.713	1.00	28.94
ATOM	3790	CA	PHE	3095	56.992	14.865	55.181	1.00	29.43
ATOM	3791	CB	PHE	3095	57.567	13.453	55.197	1.00	29.78
ATOM	3792	CG	PHE	3095	58.794	13.289	54.357	1.00	30.21
ATOM	3793	CD1	PHE	3095	60.046	13.166	54.949	1.00	30.68
ATOM	3794	CD2	PHE	3095	58.699	13.245	52.972	1.00	29.76
ATOM	3795	CE1	PHE	3095	61.192	12.997	54.166	1.00	30.75
ATOM	3796	CE2	PHE	3095	59.833	13.078	52.186	1.00	30.75
ATOM	3797	CZ	PHE	3095	61.082	12.953	52.788	1.00	30.46
ATOM	3798	C	PHE	3095	55.795	14.931	56.123	1.00	29.70
ATOM	3799	O	PHE	3095	55.922	14.669	57.332	1.00	29.21
ATOM	3800	N	GLU	3096	54.643	15.316	55.584	1.00	29.61
ATOM	3801	CA	GLU	3096	53.435	15.393	56.391	1.00	29.21
ATOM	3802	CB	GLU	3096	52.543	16.549	55.947	1.00	27.70
ATOM	3803	CG	GLU	3096	51.171	16.557	56.617	1.00	25.47
ATOM	3804	CD	GLU	3096	50.332	17.762	56.210	1.00	25.09
ATOM	3805	OE1	GLU	3096	50.100	17.935	54.990	1.00	23.17
ATOM	3806	OE2	GLU	3096	49.910	18.531	57.106	1.00	22.61
ATOM	3807	C	GLU	3096	52.691	14.086	56.225	1.00	29.12
ATOM	3808	O	GLU	3096	52.327	13.704	55.116	1.00	29.01
ATOM	3809	N	ARG	3097	52.460	13.401	57.332	1.00	29.53
ATOM	3810	CA	ARG	3097	51.767	12.138	57.263	1.00	30.40
ATOM	3811	CB	ARG	3097	52.773	11.023	57.542	1.00	32.38
ATOM	3812	CG	ARG	3097	52.349	9.642	57.123	1.00	36.15
ATOM	3813	CD	ARG	3097	53.436	8.649	57.532	1.00	39.45
ATOM	3814	NE	ARG	3097	53.000	7.250	57.522	1.00	42.19
ATOM	3815	CZ	ARG	3097	52.501	6.616	56.461	1.00	44.12
ATOM	3816	NH1	ARG	3097	52.360	7.254	55.300	1.00	45.30
ATOM	3817	NH2	ARG	3097	52.160	5.332	56.556	1.00	45.03
ATOM	3818	C	ARG	3097	50.581	12.072	58.226	1.00	29.29
ATOM	3819	O	ARG	3097	50.678	12.445	59.395	1.00	29.75
ATOM	3820	N	LEU	3098	49.438	11.645	57.704	1.00	28.52
ATOM	3821	CA	LEU	3098	48.249	11.470	58.524	1.00	27.07
ATOM	3822	CB	LEU	3098	46.967	11.688	57.715	1.00	26.03
ATOM	3823	CG	LEU	3098	45.647	11.196	58.338	1.00	26.58
ATOM	3824	CD1	LEU	3098	45.526	11.621	59.807	1.00	26.51
ATOM	3825	CD2	LEU	3098	44.480	11.746	57.523	1.00	26.38
ATOM	3826	C	LEU	3098	48.365	10.026	58.988	1.00	27.25
ATOM	3827	O	LEU	3098	48.089	9.082	58.238	1.00	27.80
ATOM	3828	N	GLU	3099	48.814	9.866	60.225	1.00	26.66
ATOM	3829	CA	GLU	3099	49.016	8.552	60.804	1.00	26.80
ATOM	3830	CB	GLU	3099	49.770	8.691	62.126	1.00	27.56
ATOM	3831	CG	GLU	3099	51.117	9.388	61.989	1.00	28.08
ATOM	3832	CD	GLU	3099	52.049	8.668	61.029	1.00	29.96
ATOM	3833	OE1	GLU	3099	53.158	9.198	60.758	1.00	30.54
ATOM	3834	OE2	GLU	3099	51.681	7.570	60.543	1.00	29.96
ATOM	3835	C	GLU	3099	47.718	7.791	61.016	1.00	27.03
ATOM	3836	O	GLU	3099	46.633	8.377	61.030	1.00	26.19
ATOM	3837	N	SER	3100	47.841	6.478	61.194	1.00	26.88
ATOM	3838	CA	SER	3100	46.683	5.630	61.398	1.00	26.68

ATOM	3839	CB	SER	3100	47.111	4.164	61.376	1.00	27.44
ATOM	3840	OG	SER	3100	48.012	3.873	62.427	1.00	29.67
ATOM	3841	C	SER	3100	45.939	5.957	62.696	1.00	26.58
ATOM	3842	O	SER	3100	44.794	5.542	62.887	1.00	26.50
ATOM	3843	N	ASN	3101	46.581	6.703	63.590	1.00	26.11
ATOM	3844	CA	ASN	3101	45.939	7.091	64.842	1.00	25.39
ATOM	3845	CB	ASN	3101	46.969	7.192	65.979	1.00	25.02
ATOM	3846	CG	ASN	3101	48.100	8.172	65.675	1.00	26.77
ATOM	3847	OD1	ASN	3101	47.944	9.099	64.872	1.00	28.88
ATOM	3848	ND2	ASN	3101	49.247	7.979	66.332	1.00	25.52
ATOM	3849	C	ASN	3101	45.207	8.428	64.685	1.00	25.05
ATOM	3850	O	ASN	3101	44.718	8.992	65.659	1.00	24.75
ATOM	3851	N	ASN	3102	45.147	8.920	63.451	1.00	24.62
ATOM	3852	CA	ASN	3102	44.482	10.179	63.110	1.00	24.62
ATOM	3853	CB	ASN	3102	43.053	10.185	63.626	1.00	24.47
ATOM	3854	CG	ASN	3102	42.192	9.189	62.898	1.00	25.74
ATOM	3855	OD1	ASN	3102	42.040	9.260	61.670	1.00	24.41
ATOM	3856	ND2	ASN	3102	41.630	8.236	63.645	1.00	26.00
ATOM	3857	C	ASN	3102	45.169	11.468	63.509	1.00	24.41
ATOM	3858	O	ASN	3102	44.554	12.525	63.530	1.00	24.40
ATOM	3859	N	TYR	3103	46.448	11.377	63.836	1.00	24.82
ATOM	3860	CA	TYR	3103	47.225	12.562	64.163	1.00	25.13
ATOM	3861	CB	TYR	3103	47.992	12.379	65.472	1.00	25.19
ATOM	3862	CG	TYR	3103	47.189	12.629	66.724	1.00	25.93
ATOM	3863	CD1	TYR	3103	47.022	13.917	67.223	1.00	26.07
ATOM	3864	CE1	TYR	3103	46.277	14.141	68.398	1.00	25.99
ATOM	3865	CD2	TYR	3103	46.594	11.567	67.422	1.00	25.12
ATOM	3866	CE2	TYR	3103	45.861	11.780	68.577	1.00	24.25
ATOM	3867	CZ	TYR	3103	45.703	13.062	69.065	1.00	25.13
ATOM	3868	OH	TYR	3103	44.980	13.263	70.225	1.00	25.77
ATOM	3869	C	TYR	3103	48.213	12.709	63.013	1.00	24.67
ATOM	3870	O	TYR	3103	48.493	11.744	62.312	1.00	25.44
ATOM	3871	N	ASN	3104	48.724	13.916	62.811	1.00	24.40
ATOM	3872	CA	ASN	3104	49.694	14.166	61.759	1.00	24.50
ATOM	3873	CB	ASN	3104	49.471	15.546	61.133	1.00	23.98
ATOM	3874	CG	ASN	3104	48.224	15.620	60.286	1.00	24.00
ATOM	3875	OD1	ASN	3104	47.386	14.721	60.320	1.00	25.53
ATOM	3876	ND2	ASN	3104	48.081	16.710	59.528	1.00	21.52
ATOM	3877	C	ASN	3104	51.076	14.163	62.372	1.00	25.15
ATOM	3878	O	ASN	3104	51.236	14.485	63.544	1.00	25.91
ATOM	3879	N	THR	3105	52.072	13.797	61.579	1.00	25.55
ATOM	3880	CA	THR	3105	53.459	13.830	62.027	1.00	26.28
ATOM	3881	CB	THR	3105	54.105	12.428	62.063	1.00	25.91
ATOM	3882	OG1	THR	3105	53.921	11.791	60.794	1.00	25.63
ATOM	3883	CG2	THR	3105	53.505	11.585	63.185	1.00	24.87
ATOM	3884	C	THR	3105	54.180	14.663	60.976	1.00	26.53
ATOM	3885	O	THR	3105	53.703	14.791	59.847	1.00	26.29
ATOM	3886	N	TYR	3106	55.315	15.236	61.347	1.00	26.47
ATOM	3887	CA	TYR	3106	56.091	16.043	60.413	1.00	27.45
ATOM	3888	CB	TYR	3106	55.866	17.527	60.695	1.00	26.05
ATOM	3889	CG	TYR	3106	54.435	17.933	60.441	1.00	24.62
ATOM	3890	CD1	TYR	3106	54.032	18.390	59.187	1.00	24.91
ATOM	3891	CE1	TYR	3106	52.699	18.715	58.930	1.00	24.06
ATOM	3892	CD2	TYR	3106	53.468	17.812	61.439	1.00	24.62
ATOM	3893	CE2	TYR	3106	52.131	18.135	61.193	1.00	23.99
ATOM	3894	CZ	TYR	3106	51.758	18.583	59.939	1.00	23.93
ATOM	3895	OH	TYR	3106	50.441	18.870	59.689	1.00	24.70
ATOM	3896	C	TYR	3106	57.547	15.651	60.553	1.00	28.19
ATOM	3897	O	TYR	3106	58.218	15.984	61.529	1.00	27.64
ATOM	3898	N	ARG	3107	58.018	14.918	59.555	1.00	29.69
ATOM	3899	CA	ARG	3107	59.379	14.403	59.547	1.00	30.82
ATOM	3900	CB	ARG	3107	59.334	12.951	59.069	1.00	30.17

ATOM	3901	CG	ARG	3107	60.441	12.032	59.559	1.00	31.02
ATOM	3902	CD	ARG	3107	60.213	10.629	58.995	1.00	30.69
ATOM	3903	NE	ARG	3107	59.902	10.724	57.567	1.00	32.60
ATOM	3904	CZ	ARG	3107	60.178	9.799	56.658	1.00	31.38
ATOM	3905	NH1	ARG	3107	60.784	8.681	57.013	1.00	34.04
ATOM	3906	NH2	ARG	3107	59.851	9.988	55.390	1.00	30.91
ATOM	3907	C	ARG	3107	60.290	15.238	58.654	1.00	30.92
ATOM	3908	O	ARG	3107	59.935	15.567	57.534	1.00	31.15
ATOM	3909	N	SER	3108	61.465	15.580	59.164	1.00	32.08
ATOM	3910	CA	SER	3108	62.434	16.375	58.411	1.00	33.43
ATOM	3911	CB	SER	3108	63.695	16.600	59.260	1.00	32.83
ATOM	3912	OG	SER	3108	64.718	17.281	58.545	1.00	31.25
ATOM	3913	C	SER	3108	62.825	15.665	57.119	1.00	34.57
ATOM	3914	O	SER	3108	63.228	14.505	57.154	1.00	34.51
ATOM	3915	N	ARG	3109	62.711	16.344	55.979	1.00	36.04
ATOM	3916	CA	ARG	3109	63.094	15.712	54.725	1.00	37.67
ATOM	3917	CB	ARG	3109	62.509	16.460	53.524	1.00	38.24
ATOM	3918	CG	ARG	3109	62.896	15.813	52.196	1.00	39.50
ATOM	3919	CD	ARG	3109	62.110	16.333	51.012	1.00	39.15
ATOM	3920	NE	ARG	3109	62.337	17.753	50.769	1.00	40.29
ATOM	3921	CZ	ARG	3109	62.119	18.349	49.600	1.00	41.48
ATOM	3922	NH1	ARG	3109	61.672	17.637	48.571	1.00	42.35
ATOM	3923	NH2	ARG	3109	62.339	19.653	49.460	1.00	41.75
ATOM	3924	C	ARG	3109	64.622	15.651	54.617	1.00	38.62
ATOM	3925	O	ARG	3109	65.178	14.827	53.890	1.00	38.19
ATOM	3926	N	LYS	3110	65.285	16.524	55.366	1.00	39.36
ATOM	3927	CA	LYS	3110	66.737	16.597	55.397	1.00	40.04
ATOM	3928	CB	LYS	3110	67.147	18.017	55.815	1.00	41.86
ATOM	3929	CG	LYS	3110	68.634	18.345	55.754	1.00	44.31
ATOM	3930	CD	LYS	3110	69.143	18.426	54.324	1.00	45.63
ATOM	3931	CE	LYS	3110	70.541	19.042	54.273	1.00	46.68
ATOM	3932	NZ	LYS	3110	71.015	19.245	52.856	1.00	47.70
ATOM	3933	C	LYS	3110	67.266	15.561	56.394	1.00	39.65
ATOM	3934	O	LYS	3110	68.118	14.738	56.050	1.00	40.14
ATOM	3935	N	TYR	3111	66.757	15.606	57.626	1.00	38.50
ATOM	3936	CA	TYR	3111	67.157	14.666	58.680	1.00	37.63
ATOM	3937	CB	TYR	3111	67.426	15.430	59.971	1.00	36.83
ATOM	3938	CG	TYR	3111	68.276	16.652	59.732	1.00	36.21
ATOM	3939	CD1	TYR	3111	69.568	16.532	59.219	1.00	36.18
ATOM	3940	CE1	TYR	3111	70.328	17.661	58.906	1.00	36.05
ATOM	3941	CD2	TYR	3111	67.763	17.935	59.938	1.00	35.57
ATOM	3942	CE2	TYR	3111	68.506	19.066	59.632	1.00	36.03
ATOM	3943	CZ	TYR	3111	69.789	18.922	59.111	1.00	36.25
ATOM	3944	OH	TYR	3111	70.519	20.034	58.770	1.00	35.86
ATOM	3945	C	TYR	3111	65.997	13.688	58.848	1.00	37.77
ATOM	3946	O	TYR	3111	65.262	13.712	59.841	1.00	37.66
ATOM	3947	N	THR	3112	65.870	12.816	57.852	1.00	37.24
ATOM	3948	CA	THR	3112	64.793	11.843	57.738	1.00	36.60
ATOM	3949	CB	THR	3112	65.061	10.850	56.619	1.00	35.66
ATOM	3950	OG1	THR	3112	65.949	9.840	57.098	1.00	35.28
ATOM	3951	CG2	THR	3112	65.654	11.553	55.416	1.00	34.43
ATOM	3952	C	THR	3112	64.337	11.014	58.919	1.00	37.07
ATOM	3953	O	THR	3112	63.324	10.327	58.814	1.00	37.86
ATOM	3954	N	SER	3113	65.037	11.068	60.039	1.00	36.47
ATOM	3955	CA	SER	3113	64.629	10.262	61.177	1.00	35.58
ATOM	3956	CB	SER	3113	65.819	9.396	61.585	1.00	35.86
ATOM	3957	OG	SER	3113	65.426	8.317	62.393	1.00	35.93
ATOM	3958	C	SER	3113	64.168	11.128	62.349	1.00	35.14
ATOM	3959	O	SER	3113	63.840	10.622	63.426	1.00	34.97
ATOM	3960	N	TRP	3114	64.135	12.438	62.131	1.00	34.37
ATOM	3961	CA	TRP	3114	63.746	13.366	63.182	1.00	34.06
ATOM	3962	CB	TRP	3114	64.836	14.428	63.324	1.00	33.76

ATOM	3963	CG	TRP	3114	66.189	13.837	63.661	1.00	34.72
ATOM	3964	CD2	TRP	3114	67.456	14.511	63.655	1.00	34.84
ATOM	3965	CE2	TRP	3114	68.433	13.571	64.064	1.00	35.18
ATOM	3966	CE3	TRP	3114	67.860	15.814	63.347	1.00	34.57
ATOM	3967	CD1	TRP	3114	66.448	12.553	64.061	1.00	35.01
ATOM	3968	NE1	TRP	3114	67.790	12.388	64.305	1.00	34.91
ATOM	3969	CZ2	TRP	3114	69.781	13.893	64.170	1.00	35.23
ATOM	3970	CZ3	TRP	3114	69.200	16.136	63.454	1.00	35.17
ATOM	3971	CH2	TRP	3114	70.146	15.178	63.862	1.00	35.91
ATOM	3972	C	TRP	3114	62.387	14.023	62.940	1.00	33.40
ATOM	3973	O	TRP	3114	62.073	14.425	61.814	1.00	33.19
ATOM	3974	N	TYR	3115	61.582	14.130	63.998	1.00	32.09
ATOM	3975	CA	TYR	3115	60.257	14.729	63.878	1.00	30.70
ATOM	3976	CB	TYR	3115	59.170	13.825	64.473	1.00	28.03
ATOM	3977	CG	TYR	3115	58.978	12.485	63.818	1.00	26.86
ATOM	3978	CD1	TYR	3115	59.762	11.392	64.183	1.00	26.65
ATOM	3979	CE1	TYR	3115	59.578	10.132	63.596	1.00	26.07
ATOM	3980	CD2	TYR	3115	57.995	12.297	62.838	1.00	26.89
ATOM	3981	CE2	TYR	3115	57.800	11.047	62.238	1.00	26.32
ATOM	3982	CZ	TYR	3115	58.600	9.970	62.628	1.00	26.19
ATOM	3983	OH	TYR	3115	58.432	8.735	62.054	1.00	26.22
ATOM	3984	C	TYR	3115	60.142	16.062	64.578	1.00	30.58
ATOM	3985	O	TYR	3115	60.876	16.346	65.530	1.00	30.75
ATOM	3986	N	VAL	3116	59.209	16.882	64.099	1.00	30.13
ATOM	3987	CA	VAL	3116	58.930	18.157	64.741	1.00	29.55
ATOM	3988	CB	VAL	3116	57.985	18.992	63.894	1.00	28.14
ATOM	3989	CG1	VAL	3116	57.550	20.227	64.657	1.00	27.32
ATOM	3990	CG2	VAL	3116	58.664	19.356	62.607	1.00	27.08
ATOM	3991	C	VAL	3116	58.225	17.711	66.029	1.00	30.22
ATOM	3992	O	VAL	3116	57.377	16.821	65.995	1.00	30.55
ATOM	3993	N	ALA	3117	58.572	18.308	67.161	1.00	30.84
ATOM	3994	CA	ALA	3117	57.970	17.889	68.413	1.00	31.30
ATOM	3995	CB	ALA	3117	58.678	16.645	68.896	1.00	30.07
ATOM	3996	C	ALA	3117	57.993	18.942	69.508	1.00	32.31
ATOM	3997	O	ALA	3117	58.860	19.810	69.517	1.00	32.57
ATOM	3998	N	LEU	3118	57.036	18.849	70.431	1.00	33.48
ATOM	3999	CA	LEU	3118	56.949	19.761	71.563	1.00	34.88
ATOM	4000	CB	LEU	3118	55.666	20.592	71.506	1.00	34.02
ATOM	4001	CG	LEU	3118	55.466	21.592	70.356	1.00	33.90
ATOM	4002	CD1	LEU	3118	54.215	22.414	70.634	1.00	33.16
ATOM	4003	CD2	LEU	3118	56.670	22.518	70.225	1.00	32.79
ATOM	4004	C	LEU	3118	56.953	18.943	72.846	1.00	36.89
ATOM	4005	O	LEU	3118	56.347	17.879	72.897	1.00	37.67
ATOM	4006	N	LYS	3119	57.650	19.431	73.871	1.00	38.85
ATOM	4007	CA	LYS	3119	57.707	18.747	75.158	1.00	40.71
ATOM	4008	CB	LYS	3119	58.970	19.149	75.934	1.00	42.18
ATOM	4009	CG	LYS	3119	60.263	18.648	75.320	1.00	44.83
ATOM	4010	CD	LYS	3119	61.406	18.546	76.334	1.00	46.30
ATOM	4011	CE	LYS	3119	61.898	19.910	76.790	1.00	48.37
ATOM	4012	NZ	LYS	3119	63.178	19.836	77.585	1.00	48.92
ATOM	4013	C	LYS	3119	56.476	19.141	75.964	1.00	41.75
ATOM	4014	O	LYS	3119	55.757	20.062	75.590	1.00	41.29
ATOM	4015	N	ARG	3120	56.237	18.443	77.069	1.00	43.43
ATOM	4016	CA	ARG	3120	55.097	18.737	77.939	1.00	45.49
ATOM	4017	CB	ARG	3120	55.022	17.720	79.084	1.00	47.02
ATOM	4018	CG	ARG	3120	54.725	16.288	78.680	1.00	50.54
ATOM	4019	CD	ARG	3120	54.856	15.353	79.892	1.00	53.97
ATOM	4020	NE	ARG	3120	54.382	13.990	79.629	1.00	56.91
ATOM	4021	CZ	ARG	3120	54.543	12.964	80.467	1.00	58.18
ATOM	4022	NH1	ARG	3120	55.175	13.145	81.628	1.00	57.86
ATOM	4023	NH2	ARG	3120	54.068	11.757	80.145	1.00	58.75
ATOM	4024	C	ARG	3120	55.213	20.139	78.550	1.00	45.57

ATOM	4025	O	ARG	3120	54.240	20.665	79.099	1.00	45.78
ATOM	4026	N	THR	3121	56.402	20.738	78.463	1.00	45.18
ATOM	4027	CA	THR	3121	56.628	22.067	79.027	1.00	43.90
ATOM	4028	CB	THR	3121	58.092	22.278	79.410	1.00	43.45
ATOM	4029	OG1	THR	3121	58.898	22.262	78.228	1.00	43.56
ATOM	4030	CG2	THR	3121	58.560	21.190	80.342	1.00	43.10
ATOM	4031	C	THR	3121	56.257	23.172	78.061	1.00	43.77
ATOM	4032	O	THR	3121	56.225	24.335	78.429	1.00	43.80
ATOM	4033	N	GLY	3122	55.975	22.811	76.819	1.00	44.12
ATOM	4034	CA	GLY	3122	55.633	23.820	75.837	1.00	43.82
ATOM	4035	C	GLY	3122	56.854	24.228	75.036	1.00	43.46
ATOM	4036	O	GLY	3122	56.759	25.036	74.119	1.00	43.56
ATOM	4037	N	GLN	3123	58.006	23.683	75.399	1.00	43.18
ATOM	4038	CA	GLN	3123	59.242	23.965	74.687	1.00	43.56
ATOM	4039	CB	GLN	3123	60.438	23.870	75.630	1.00	43.92
ATOM	4040	CG	GLN	3123	60.469	24.946	76.669	1.00	44.98
ATOM	4041	CD	GLN	3123	60.512	26.322	76.045	1.00	46.14
ATOM	4042	OE1	GLN	3123	61.441	26.653	75.303	1.00	46.76
ATOM	4043	NE2	GLN	3123	59.505	27.135	76.336	1.00	46.90
ATOM	4044	C	GLN	3123	59.372	22.907	73.606	1.00	43.11
ATOM	4045	O	GLN	3123	58.953	21.770	73.802	1.00	43.38
ATOM	4046	N	TYR	3124	59.949	23.267	72.468	1.00	42.36
ATOM	4047	CA	TYR	3124	60.102	22.298	71.399	1.00	42.01
ATOM	4048	CB	TYR	3124	60.657	22.981	70.142	1.00	41.81
ATOM	4049	CG	TYR	3124	62.136	23.312	70.187	1.00	41.67
ATOM	4050	CD1	TYR	3124	63.097	22.313	70.021	1.00	41.76
ATOM	4051	CE1	TYR	3124	64.456	22.606	70.054	1.00	42.16
ATOM	4052	CD2	TYR	3124	62.574	24.623	70.390	1.00	41.60
ATOM	4053	CE2	TYR	3124	63.932	24.931	70.427	1.00	41.64
ATOM	4054	CZ	TYR	3124	64.870	23.917	70.258	1.00	42.45
ATOM	4055	OH	TYR	3124	66.221	24.203	70.295	1.00	42.72
ATOM	4056	C	TYR	3124	61.043	21.205	71.875	1.00	41.62
ATOM	4057	O	TYR	3124	61.831	21.424	72.788	1.00	42.04
ATOM	4058	N	LYS	3125	60.953	20.031	71.265	1.00	41.16
ATOM	4059	CA	LYS	3125	61.810	18.914	71.631	1.00	40.81
ATOM	4060	CB	LYS	3125	60.956	17.674	71.900	1.00	39.63
ATOM	4061	CG	LYS	3125	61.740	16.428	72.229	1.00	38.43
ATOM	4062	CD	LYS	3125	60.819	15.299	72.630	1.00	37.98
ATOM	4063	CE	LYS	3125	61.606	14.045	72.984	1.00	38.56
ATOM	4064	NZ	LYS	3125	60.771	12.994	73.632	1.00	36.78
ATOM	4065	C	LYS	3125	62.793	18.646	70.496	1.00	41.13
ATOM	4066	O	LYS	3125	62.401	18.593	69.334	1.00	41.25
ATOM	4067	N	LEU	3126	64.070	18.500	70.833	1.00	41.40
ATOM	4068	CA	LEU	3126	65.098	18.233	69.838	1.00	41.51
ATOM	4069	CB	LEU	3126	66.416	17.905	70.533	1.00	41.76
ATOM	4070	CG	LEU	3126	67.049	19.067	71.296	1.00	42.64
ATOM	4071	CD1	LEU	3126	68.235	18.565	72.099	1.00	42.24
ATOM	4072	CD2	LEU	3126	67.473	20.147	70.313	1.00	42.13
ATOM	4073	C	LEU	3126	64.709	17.076	68.924	1.00	41.69
ATOM	4074	O	LEU	3126	64.354	15.996	69.397	1.00	42.10
ATOM	4075	N	GLY	3127	64.781	17.301	67.616	1.00	41.22
ATOM	4076	CA	GLY	3127	64.439	16.253	66.679	1.00	41.14
ATOM	4077	C	GLY	3127	65.301	15.028	66.899	1.00	41.67
ATOM	4078	O	GLY	3127	64.864	13.895	66.686	1.00	41.09
ATOM	4079	N	SER	3128	66.535	15.259	67.336	1.00	42.01
ATOM	4080	CA	SER	3128	67.473	14.172	67.578	1.00	42.37
ATOM	4081	CB	SER	3128	68.845	14.746	67.930	1.00	42.23
ATOM	4082	OG	SER	3128	68.801	15.447	69.160	1.00	41.94
ATOM	4083	C	SER	3128	66.993	13.267	68.709	1.00	42.59
ATOM	4084	O	SER	3128	67.455	12.140	68.851	1.00	41.75
ATOM	4085	N	LYS	3129	66.056	13.769	69.504	1.00	43.34
ATOM	4086	CA	LYS	3129	65.532	13.022	70.642	1.00	44.33

ATOM	4087	CB	LYS	3129	65.479	13.952	71.876	1.00	45.33
ATOM	4088	CG	LYS	3129	65.888	13.310	73.208	1.00	48.32
ATOM	4089	CD	LYS	3129	64.848	13.517	74.349	1.00	50.22
ATOM	4090	CE	LYS	3129	64.795	14.969	74.876	1.00	51.56
ATOM	4091	NZ	LYS	3129	63.774	15.190	75.960	1.00	51.30
ATOM	4092	C	LYS	3129	64.135	12.458	70.359	1.00	43.96
ATOM	4093	O	LYS	3129	63.532	11.830	71.231	1.00	44.17
ATOM	4094	N	THR	3130	63.622	12.676	69.149	1.00	43.04
ATOM	4095	CA	THR	3130	62.284	12.201	68.803	1.00	42.15
ATOM	4096	CB	THR	3130	61.622	13.122	67.759	1.00	41.22
ATOM	4097	OG1	THR	3130	62.384	13.093	66.548	1.00	40.88
ATOM	4098	CG2	THR	3130	61.549	14.551	68.275	1.00	40.27
ATOM	4099	C	THR	3130	62.282	10.771	68.275	1.00	42.16
ATOM	4100	O	THR	3130	63.329	10.210	67.959	1.00	42.40
ATOM	4101	N	GLY	3131	61.095	10.184	68.193	1.00	41.80
ATOM	4102	CA	GLY	3131	60.963	8.827	67.701	1.00	41.29
ATOM	4103	C	GLY	3131	59.516	8.552	67.345	1.00	41.14
ATOM	4104	O	GLY	3131	58.632	9.306	67.757	1.00	40.85
ATOM	4105	N	PRO	3132	59.235	7.484	66.581	1.00	41.29
ATOM	4106	CD	PRO	3132	60.210	6.577	65.957	1.00	41.74
ATOM	4107	CA	PRO	3132	57.873	7.126	66.175	1.00	41.21
ATOM	4108	CB	PRO	3132	58.088	5.937	65.233	1.00	41.09
ATOM	4109	CG	PRO	3132	59.367	5.354	65.693	1.00	41.75
ATOM	4110	C	PRO	3132	56.884	6.829	67.302	1.00	41.23
ATOM	4111	O	PRO	3132	55.699	7.157	67.192	1.00	41.41
ATOM	4112	N	GLY	3133	57.361	6.227	68.386	1.00	40.72
ATOM	4113	CA	GLY	3133	56.469	5.917	69.488	1.00	40.27
ATOM	4114	C	GLY	3133	56.308	7.018	70.521	1.00	39.61
ATOM	4115	O	GLY	3133	56.019	6.734	71.684	1.00	40.41
ATOM	4116	N	GLN	3134	56.476	8.271	70.113	1.00	38.20
ATOM	4117	CA	GLN	3134	56.357	9.374	71.053	1.00	37.29
ATOM	4118	CB	GLN	3134	57.595	10.259	70.977	1.00	36.56
ATOM	4119	CG	GLN	3134	58.879	9.556	71.346	1.00	35.59
ATOM	4120	CD	GLN	3134	60.042	10.513	71.353	1.00	36.21
ATOM	4121	OE1	GLN	3134	61.191	10.117	71.528	1.00	36.13
ATOM	4122	NE2	GLN	3134	59.749	11.790	71.161	1.00	35.89
ATOM	4123	C	GLN	3134	55.117	10.227	70.849	1.00	37.01
ATOM	4124	O	GLN	3134	54.692	10.480	69.733	1.00	37.74
ATOM	4125	N	LYS	3135	54.551	10.674	71.956	1.00	36.45
ATOM	4126	CA	LYS	3135	53.363	11.507	71.969	1.00	35.39
ATOM	4127	CB	LYS	3135	52.826	11.513	73.396	1.00	35.38
ATOM	4128	CG	LYS	3135	51.563	12.276	73.664	1.00	35.73
ATOM	4129	CD	LYS	3135	51.176	11.987	75.102	1.00	36.00
ATOM	4130	CE	LYS	3135	49.882	12.643	75.510	1.00	37.40
ATOM	4131	NZ	LYS	3135	49.652	12.408	76.968	1.00	38.21
ATOM	4132	C	LYS	3135	53.701	12.925	71.520	1.00	35.02
ATOM	4133	O	LYS	3135	52.839	13.650	71.028	1.00	35.67
ATOM	4134	N	ALA	3136	54.967	13.302	71.683	1.00	33.63
ATOM	4135	CA	ALA	3136	55.451	14.628	71.332	1.00	32.46
ATOM	4136	CB	ALA	3136	56.836	14.820	71.909	1.00	32.39
ATOM	4137	C	ALA	3136	55.468	14.961	69.839	1.00	32.06
ATOM	4138	O	ALA	3136	55.460	16.139	69.460	1.00	32.00
ATOM	4139	N	ILE	3137	55.486	13.942	68.986	1.00	30.71
ATOM	4140	CA	ILE	3137	55.522	14.197	67.549	1.00	29.93
ATOM	4141	CB	ILE	3137	56.356	13.132	66.809	1.00	28.69
ATOM	4142	CG2	ILE	3137	57.734	12.991	67.469	1.00	26.72
ATOM	4143	CG1	ILE	3137	55.587	11.813	66.775	1.00	27.75
ATOM	4144	CD1	ILE	3137	56.247	10.726	65.958	1.00	26.34
ATOM	4145	C	ILE	3137	54.149	14.260	66.880	1.00	30.23
ATOM	4146	O	ILE	3137	54.053	14.573	65.695	1.00	30.59
ATOM	4147	N	LEU	3138	53.095	13.982	67.641	1.00	29.89
ATOM	4148	CA	LEU	3138	51.742	13.971	67.099	1.00	29.30

ATOM	4149	CB	LEU	3138	50.913	12.926	67.835	1.00	28.78
ATOM	4150	CG	LEU	3138	51.579	11.552	67.799	1.00	28.96
ATOM	4151	CD1	LEU	3138	50.814	10.552	68.659	1.00	28.80
ATOM	4152	CD2	LEU	3138	51.638	11.093	66.343	1.00	30.05
ATOM	4153	C	LEU	3138	51.014	15.308	67.146	1.00	29.53
ATOM	4154	O	LEU	3138	50.895	15.931	68.204	1.00	29.55
ATOM	4155	N	PHE	3139	50.506	15.746	65.998	1.00	28.97
ATOM	4156	CA	PHE	3139	49.777	17.006	65.948	1.00	28.49
ATOM	4157	CB	PHE	3139	50.557	18.075	65.188	1.00	27.65
ATOM	4158	CG	PHE	3139	51.850	18.436	65.822	1.00	25.80
ATOM	4159	CD1	PHE	3139	52.962	17.632	65.654	1.00	25.85
ATOM	4160	CD2	PHE	3139	51.949	19.567	66.615	1.00	26.05
ATOM	4161	CE1	PHE	3139	54.152	17.948	66.265	1.00	26.07
ATOM	4162	CE2	PHE	3139	53.136	19.892	67.229	1.00	25.33
ATOM	4163	CZ	PHE	3139	54.239	19.083	67.056	1.00	26.10
ATOM	4164	C	PHE	3139	48.428	16.864	65.301	1.00	29.32
ATOM	4165	O	PHE	3139	48.255	16.120	64.342	1.00	29.93
ATOM	4166	N	LEU	3140	47.473	17.610	65.826	1.00	29.75
ATOM	4167	CA	LEU	3140	46.125	17.583	65.310	1.00	30.88
ATOM	4168	CB	LEU	3140	45.146	17.408	66.473	1.00	30.22
ATOM	4169	CG	LEU	3140	43.700	17.032	66.153	1.00	29.88
ATOM	4170	CD1	LEU	3140	43.695	15.831	65.243	1.00	29.65
ATOM	4171	CD2	LEU	3140	42.941	16.735	67.434	1.00	29.30
ATOM	4172	C	LEU	3140	45.900	18.910	64.608	1.00	32.12
ATOM	4173	O	LEU	3140	45.879	19.953	65.250	1.00	32.46
ATOM	4174	N	PRO	3141	45.753	18.891	63.277	1.00	32.93
ATOM	4175	CD	PRO	3141	45.750	17.734	62.366	1.00	33.53
ATOM	4176	CA	PRO	3141	45.535	20.134	62.542	1.00	34.24
ATOM	4177	CB	PRO	3141	45.755	19.710	61.095	1.00	33.67
ATOM	4178	CG	PRO	3141	45.177	18.324	61.093	1.00	33.64
ATOM	4179	C	PRO	3141	44.135	20.682	62.791	1.00	35.81
ATOM	4180	O	PRO	3141	43.158	19.944	62.758	1.00	35.58
ATOM	4181	N	MET	3142	44.046	21.976	63.056	1.00	37.82
ATOM	4182	CA	MET	3142	42.762	22.625	63.296	1.00	40.51
ATOM	4183	CB	MET	3142	42.628	23.014	64.757	1.00	39.85
ATOM	4184	CG	MET	3142	42.870	21.894	65.702	1.00	41.10
ATOM	4185	SD	MET	3142	42.525	22.404	67.380	1.00	42.03
ATOM	4186	CE	MET	3142	40.829	22.046	67.466	1.00	42.50
ATOM	4187	C	MET	3142	42.698	23.887	62.464	1.00	42.36
ATOM	4188	O	MET	3142	43.715	24.544	62.260	1.00	42.88
ATOM	4189	N	SER	3143	41.515	24.240	61.985	1.00	44.85
ATOM	4190	CA	SER	3143	41.394	25.452	61.194	1.00	47.93
ATOM	4191	CB	SER	3143	39.985	25.599	60.633	1.00	48.53
ATOM	4192	OG	SER	3143	39.051	25.849	61.670	1.00	50.73
ATOM	4193	C	SER	3143	41.715	26.632	62.101	1.00	49.87
ATOM	4194	O	SER	3143	41.570	26.548	63.328	1.00	49.27
ATOM	4195	N	ALA	3144	42.179	27.720	61.496	1.00	52.56
ATOM	4196	CA	ALA	3144	42.517	28.920	62.248	1.00	55.28
ATOM	4197	CB	ALA	3144	43.839	29.490	61.769	1.00	54.86
ATOM	4198	C	ALA	3144	41.390	29.896	61.987	1.00	57.64
ATOM	4199	O	ALA	3144	41.372	30.592	60.976	1.00	58.54
ATOM	4200	N	LYS	3145	40.404	29.880	62.869	1.00	60.39
ATOM	4201	CA	LYS	3145	39.257	30.751	62.729	1.00	62.90
ATOM	4202	CB	LYS	3145	38.129	30.018	61.977	1.00	64.47
ATOM	4203	CG	LYS	3145	38.583	29.441	60.617	1.00	66.36
ATOM	4204	CD	LYS	3145	37.443	28.879	59.756	1.00	67.43
ATOM	4205	CE	LYS	3145	37.979	28.357	58.411	1.00	67.94
ATOM	4206	NZ	LYS	3145	36.907	27.887	57.477	1.00	68.21
ATOM	4207	C	LYS	3145	38.854	31.126	64.144	1.00	63.85
ATOM	4208	O	LYS	3145	38.323	30.297	64.895	1.00	63.55
ATOM	4209	N	ALA	3146	39.153	32.379	64.487	1.00	64.80
ATOM	4210	CA	ALA	3146	38.897	32.983	65.796	1.00	66.21

ATOM	4211	CB	ALA	3146	38.147	32.019	66.736	1.00	66.07
ATOM	4212	C	ALA	3146	40.254	33.341	66.397	1.00	66.79
ATOM	4213	O	ALA	3146	41.256	33.074	65.694	1.00	67.66
ATOM	4214	CB	MSE	2149	27.593	19.576	-21.743	1.00	75.07
ATOM	4215	CG	MSE	2149	26.822	20.830	-21.312	1.00	78.40
ATOM	4216	SE	MSE	2149	26.886	22.246	-22.467	1.00	83.46
ATOM	4217	CE	MSE	2149	25.367	21.959	-23.446	1.00	81.31
ATOM	4218	C	MSE	2149	29.613	20.070	-20.303	1.00	71.30
ATOM	4219	O	MSE	2149	28.993	19.709	-19.300	1.00	71.53
ATOM	4220	N	MSE	2149	29.736	18.408	-22.143	1.00	72.18
ATOM	4221	CA	MSE	2149	29.125	19.699	-21.714	1.00	72.61
ATOM	4222	N	PRO	2150	30.731	20.811	-20.217	1.00	69.63
ATOM	4223	CD	PRO	2150	31.405	21.382	-21.394	1.00	69.49
ATOM	4224	CA	PRO	2150	31.375	21.273	-18.977	1.00	68.16
ATOM	4225	CB	PRO	2150	32.479	22.200	-19.479	1.00	68.32
ATOM	4226	CG	PRO	2150	32.777	21.684	-20.850	1.00	69.55
ATOM	4227	C	PRO	2150	30.460	22.016	-18.014	1.00	66.65
ATOM	4228	O	PRO	2150	29.831	23.001	-18.395	1.00	66.56
ATOM	4229	N	VAL	2151	30.405	21.556	-16.766	1.00	64.70
ATOM	4230	CA	VAL	2151	29.587	22.205	-15.751	1.00	62.62
ATOM	4231	CB	VAL	2151	28.297	21.438	-15.496	1.00	62.77
ATOM	4232	CG1	VAL	2151	27.428	22.208	-14.511	1.00	62.32
ATOM	4233	CG2	VAL	2151	27.568	21.222	-16.807	1.00	62.65
ATOM	4234	C	VAL	2151	30.342	22.337	-14.433	1.00	61.28
ATOM	4235	O	VAL	2151	30.806	21.345	-13.870	1.00	61.55
ATOM	4236	N	ALA	2152	30.476	23.571	-13.955	1.00	59.27
ATOM	4237	CA	ALA	2152	31.163	23.833	-12.696	1.00	57.33
ATOM	4238	CB	ALA	2152	31.343	25.330	-12.496	1.00	56.70
ATOM	4239	C	ALA	2152	30.321	23.242	-11.562	1.00	56.10
ATOM	4240	O	ALA	2152	29.087	23.304	-11.594	1.00	55.91
ATOM	4241	N	PRO	2153	30.980	22.678	-10.535	1.00	54.52
ATOM	4242	CD	PRO	2153	32.424	22.823	-10.287	1.00	53.98
ATOM	4243	CA	PRO	2153	30.318	22.060	-9.379	1.00	52.93
ATOM	4244	CB	PRO	2153	31.478	21.806	-8.413	1.00	53.35
ATOM	4245	CG	PRO	2153	32.480	22.853	-8.790	1.00	53.56
ATOM	4246	C	PRO	2153	29.186	22.853	-8.739	1.00	51.17
ATOM	4247	O	PRO	2153	29.262	24.065	-8.591	1.00	51.17
ATOM	4248	N	TYR	2154	28.132	22.143	-8.365	1.00	49.67
ATOM	4249	CA	TYR	2154	26.966	22.751	-7.733	1.00	48.69
ATOM	4250	CB	TYR	2154	25.940	23.170	-8.799	1.00	47.37
ATOM	4251	CG	TYR	2154	25.395	22.015	-9.622	1.00	46.49
ATOM	4252	CD1	TYR	2154	26.202	21.343	-10.548	1.00	45.55
ATOM	4253	CE1	TYR	2154	25.721	20.248	-11.272	1.00	45.14
ATOM	4254	CD2	TYR	2154	24.087	21.564	-9.445	1.00	46.44
ATOM	4255	CE2	TYR	2154	23.595	20.466	-10.165	1.00	46.07
ATOM	4256	CZ	TYR	2154	24.419	19.813	-11.072	1.00	45.55
ATOM	4257	OH	TYR	2154	23.949	18.713	-11.748	1.00	44.58
ATOM	4258	C	TYR	2154	26.321	21.749	-6.765	1.00	48.29
ATOM	4259	O	TYR	2154	26.421	20.537	-6.950	1.00	47.58
ATOM	4260	N	TRP	2155	25.659	22.262	-5.736	1.00	47.79
ATOM	4261	CA	TRP	2155	24.997	21.413	-4.761	1.00	47.39
ATOM	4262	CB	TRP	2155	24.578	22.235	-3.541	1.00	45.56
ATOM	4263	CG	TRP	2155	25.696	22.971	-2.860	1.00	43.22
ATOM	4264	CD2	TRP	2155	26.939	22.425	-2.403	1.00	41.64
ATOM	4265	CE2	TRP	2155	27.659	23.476	-1.801	1.00	41.47
ATOM	4266	CE3	TRP	2155	27.515	21.150	-2.444	1.00	41.19
ATOM	4267	CD1	TRP	2155	25.713	24.291	-2.524	1.00	42.25
ATOM	4268	NE1	TRP	2155	26.886	24.604	-1.889	1.00	41.44
ATOM	4269	CZ2	TRP	2155	28.926	23.294	-1.242	1.00	41.05
ATOM	4270	CZ3	TRP	2155	28.778	20.970	-1.889	1.00	40.72
ATOM	4271	CH2	TRP	2155	29.467	22.038	-1.297	1.00	40.52
ATOM	4272	C	TRP	2155	23.758	20.834	-5.404	1.00	48.35

ATOM	4273	O	TRP	2155	23.023	21.546	-6.086	1.00	49.28
ATOM	4274	N	THR	2156	23.520	19.550	-5.176	1.00	49.34
ATOM	4275	CA	THR	2156	22.353	18.871	-5.724	1.00	50.45
ATOM	4276	CB	THR	2156	22.710	17.437	-6.115	1.00	50.33
ATOM	4277	OG1	THR	2156	23.528	16.860	-5.087	1.00	49.82
ATOM	4278	CG2	THR	2156	23.464	17.413	-7.438	1.00	50.54
ATOM	4279	C	THR	2156	21.207	18.823	-4.716	1.00	51.29
ATOM	4280	O	THR	2156	20.043	18.726	-5.098	1.00	51.55
ATOM	4281	N	SER	2157	21.546	18.882	-3.430	1.00	52.50
ATOM	4282	CA	SER	2157	20.551	18.838	-2.356	1.00	53.40
ATOM	4283	CB	SER	2157	20.566	17.478	-1.648	1.00	53.00
ATOM	4284	OG	SER	2157	20.499	16.397	-2.553	1.00	53.76
ATOM	4285	C	SER	2157	20.843	19.899	-1.304	1.00	54.11
ATOM	4286	O	SER	2157	20.993	19.573	-0.128	1.00	54.08
ATOM	4287	N	PRO	2158	20.916	21.179	-1.699	1.00	54.95
ATOM	4288	CD	PRO	2158	20.491	21.757	-2.984	1.00	54.58
ATOM	4289	CA	PRO	2158	21.199	22.239	-0.726	1.00	55.65
ATOM	4290	CB	PRO	2158	21.066	23.508	-1.560	1.00	55.16
ATOM	4291	CG	PRO	2158	20.045	23.130	-2.575	1.00	54.58
ATOM	4292	C	PRO	2158	20.232	22.201	0.453	1.00	56.63
ATOM	4293	O	PRO	2158	20.530	22.699	1.539	1.00	56.40
ATOM	4294	N	GLU	2159	19.074	21.592	0.224	1.00	57.62
ATOM	4295	CA	GLU	2159	18.055	21.462	1.251	1.00	58.67
ATOM	4296	CB	GLU	2159	16.826	20.725	0.708	1.00	59.72
ATOM	4297	CG	GLU	2159	16.305	21.217	-0.633	1.00	61.86
ATOM	4298	CD	GLU	2159	17.039	20.598	-1.814	1.00	62.80
ATOM	4299	OE1	GLU	2159	17.689	19.546	-1.623	1.00	63.02
ATOM	4300	OE2	GLU	2159	16.947	21.153	-2.936	1.00	63.64
ATOM	4301	C	GLU	2159	18.588	20.678	2.444	1.00	58.46
ATOM	4302	O	GLU	2159	18.370	21.064	3.592	1.00	58.79
ATOM	4303	N	LYS	2160	19.272	19.568	2.180	1.00	58.04
ATOM	4304	CA	LYS	2160	19.788	18.766	3.278	1.00	57.31
ATOM	4305	CB	LYS	2160	19.808	17.273	2.919	1.00	57.70
ATOM	4306	CG	LYS	2160	20.735	16.867	1.796	1.00	59.16
ATOM	4307	CD	LYS	2160	20.837	15.340	1.691	1.00	59.95
ATOM	4308	CE	LYS	2160	19.486	14.681	1.406	1.00	60.48
ATOM	4309	NZ	LYS	2160	19.624	13.203	1.191	1.00	61.55
ATOM	4310	C	LYS	2160	21.147	19.221	3.807	1.00	56.62
ATOM	4311	O	LYS	2160	21.859	18.450	4.452	1.00	56.95
ATOM	4312	N	MSE	2161	21.493	20.478	3.549	1.00	55.45
ATOM	4313	CA	MSE	2161	22.749	21.053	4.032	1.00	54.44
ATOM	4314	CB	MSE	2161	23.607	21.551	2.858	1.00	52.60
ATOM	4315	CG	MSE	2161	24.164	20.457	1.951	1.00	50.49
ATOM	4316	SE	MSE	2161	24.973	21.102	0.448	1.00	47.99
ATOM	4317	CE	MSE	2161	26.488	21.782	1.124	1.00	48.51
ATOM	4318	C	MSE	2161	22.397	22.219	4.960	1.00	54.88
ATOM	4319	O	MSE	2161	23.242	23.047	5.309	1.00	55.06
ATOM	4320	N	GLU	2162	21.129	22.260	5.354	1.00	55.27
ATOM	4321	CA	GLU	2162	20.578	23.293	6.227	1.00	55.39
ATOM	4322	CB	GLU	2162	19.073	23.027	6.388	1.00	57.63
ATOM	4323	CG	GLU	2162	18.202	24.264	6.460	1.00	60.68
ATOM	4324	CD	GLU	2162	18.509	25.249	5.350	1.00	62.78
ATOM	4325	OE1	GLU	2162	19.454	26.064	5.525	1.00	64.01
ATOM	4326	OE2	GLU	2162	17.814	25.195	4.305	1.00	63.10
ATOM	4327	C	GLU	2162	21.257	23.333	7.604	1.00	53.75
ATOM	4328	O	GLU	2162	21.809	24.356	8.010	1.00	53.26
ATOM	4329	N	LYS	2163	21.197	22.202	8.301	1.00	51.69
ATOM	4330	CA	LYS	2163	21.762	22.017	9.634	1.00	49.98
ATOM	4331	CB	LYS	2163	21.379	20.609	10.098	1.00	49.52
ATOM	4332	CG	LYS	2163	22.052	20.056	11.335	1.00	48.96
ATOM	4333	CD	LYS	2163	21.567	18.624	11.515	1.00	48.61
ATOM	4334	CE	LYS	2163	22.183	17.932	12.706	1.00	49.16

ATOM	4335	NZ	LYS	2163	21.414	16.697	13.049	1.00	49.79
ATOM	4336	C	LYS	2163	23.280	22.210	9.676	1.00	48.78
ATOM	4337	O	LYS	2163	24.031	21.313	9.316	1.00	48.57
ATOM	4338	N	LYS	2164	23.734	23.376	10.123	1.00	47.52
ATOM	4339	CA	LYS	2164	25.163	23.619	10.185	1.00	46.14
ATOM	4340	CB	LYS	2164	25.463	25.095	9.915	1.00	47.42
ATOM	4341	CG	LYS	2164	25.304	25.459	8.428	1.00	49.19
ATOM	4342	CD	LYS	2164	26.100	26.704	8.055	1.00	51.03
ATOM	4343	CE	LYS	2164	27.584	26.543	8.405	1.00	51.49
ATOM	4344	NZ	LYS	2164	28.423	27.692	7.949	1.00	51.95
ATOM	4345	C	LYS	2164	25.820	23.135	11.476	1.00	44.65
ATOM	4346	O	LYS	2164	26.934	22.626	11.436	1.00	44.68
ATOM	4347	N	LEU	2165	25.140	23.273	12.615	1.00	42.19
ATOM	4348	CA	LEU	2165	25.705	22.791	13.867	1.00	39.70
ATOM	4349	CB	LEU	2165	25.338	23.700	15.042	1.00	38.84
ATOM	4350	CG	LEU	2165	25.670	23.090	16.416	1.00	37.93
ATOM	4351	CD1	LEU	2165	27.178	22.986	16.591	1.00	37.10
ATOM	4352	CD2	LEU	2165	25.053	23.921	17.529	1.00	37.29
ATOM	4353	C	LEU	2165	25.219	21.385	14.177	1.00	38.63
ATOM	4354	O	LEU	2165	24.025	21.130	14.229	1.00	38.28
ATOM	4355	N	HIS	2166	26.156	20.468	14.368	1.00	37.41
ATOM	4356	CA	HIS	2166	25.813	19.096	14.714	1.00	36.06
ATOM	4357	CB	HIS	2166	26.517	18.067	13.813	1.00	36.60
ATOM	4358	CG	HIS	2166	25.967	17.966	12.419	1.00	38.11
ATOM	4359	CD2	HIS	2166	25.856	18.885	11.426	1.00	38.56
ATOM	4360	ND1	HIS	2166	25.518	16.774	11.883	1.00	38.28
ATOM	4361	CE1	HIS	2166	25.154	16.964	10.625	1.00	37.67
ATOM	4362	NE2	HIS	2166	25.348	18.236	10.323	1.00	37.80
ATOM	4363	C	HIS	2166	26.310	18.904	16.139	1.00	35.15
ATOM	4364	O	HIS	2166	27.520	18.896	16.392	1.00	35.14
ATOM	4365	N	ALA	2167	25.378	18.769	17.071	1.00	33.33
ATOM	4366	CA	ALA	2167	25.748	18.559	18.455	1.00	31.78
ATOM	4367	CB	ALA	2167	25.056	19.591	19.345	1.00	31.04
ATOM	4368	C	ALA	2167	25.308	17.144	18.809	1.00	30.13
ATOM	4369	O	ALA	2167	24.183	16.744	18.531	1.00	30.31
ATOM	4370	N	VAL	2168	26.206	16.375	19.398	1.00	29.06
ATOM	4371	CA	VAL	2168	25.875	15.009	19.768	1.00	27.84
ATOM	4372	CB	VAL	2168	26.288	14.010	18.674	1.00	28.12
ATOM	4373	CG1	VAL	2168	25.514	14.265	17.401	1.00	28.23
ATOM	4374	CG2	VAL	2168	27.782	14.119	18.429	1.00	27.63
ATOM	4375	C	VAL	2168	26.601	14.580	21.021	1.00	26.89
ATOM	4376	O	VAL	2168	27.626	15.155	21.389	1.00	27.64
ATOM	4377	N	PRO	2169	26.071	13.563	21.697	1.00	26.04
ATOM	4378	CD	PRO	2169	24.781	12.890	21.451	1.00	26.22
ATOM	4379	CA	PRO	2169	26.712	13.067	22.911	1.00	26.17
ATOM	4380	CB	PRO	2169	25.624	12.191	23.527	1.00	25.80
ATOM	4381	CG	PRO	2169	24.875	11.675	22.324	1.00	25.68
ATOM	4382	C	PRO	2169	27.924	12.272	22.435	1.00	26.20
ATOM	4383	O	PRO	2169	27.969	11.856	21.283	1.00	26.80
ATOM	4384	N	ALA	2170	28.904	12.074	23.305	1.00	26.35
ATOM	4385	CA	ALA	2170	30.088	11.310	22.953	1.00	26.76
ATOM	4386	CB	ALA	2170	31.017	11.271	24.140	1.00	25.11
ATOM	4387	C	ALA	2170	29.714	9.888	22.532	1.00	26.88
ATOM	4388	O	ALA	2170	28.696	9.354	22.965	1.00	27.39
ATOM	4389	N	ALA	2171	30.530	9.294	21.667	1.00	27.36
ATOM	4390	CA	ALA	2171	30.336	7.912	21.207	1.00	27.41
ATOM	4391	CB	ALA	2171	29.865	7.022	22.380	1.00	25.72
ATOM	4392	C	ALA	2171	29.401	7.747	20.022	1.00	27.07
ATOM	4393	O	ALA	2171	29.355	6.678	19.415	1.00	28.23
ATOM	4394	N	LYS	2172	28.654	8.791	19.685	1.00	26.94
ATOM	4395	CA	LYS	2172	27.742	8.679	18.560	1.00	26.72
ATOM	4396	CB	LYS	2172	26.683	9.778	18.592	1.00	26.60

ATOM	4397	CG	LYS	2172	25.553	9.474	17.623	1.00	25.72
ATOM	4398	CD	LYS	2172	24.290	10.258	17.874	1.00	25.26
ATOM	4399	CE	LYS	2172	23.223	9.772	16.914	1.00	25.55
ATOM	4400	NZ	LYS	2172	23.772	9.737	15.524	1.00	25.48
ATOM	4401	C	LYS	2172	28.482	8.732	17.228	1.00	27.01
ATOM	4402	O	LYS	2172	29.621	9.203	17.156	1.00	26.80
ATOM	4403	N	THR	2173	27.838	8.220	16.183	1.00	26.96
ATOM	4404	CA	THR	2173	28.397	8.234	14.833	1.00	27.33
ATOM	4405	CB	THR	2173	27.847	7.067	13.960	1.00	27.16
ATOM	4406	OG1	THR	2173	28.414	5.831	14.401	1.00	28.92
ATOM	4407	CG2	THR	2173	28.201	7.260	12.479	1.00	26.33
ATOM	4408	C	THR	2173	27.951	9.540	14.200	1.00	27.90
ATOM	4409	O	THR	2173	26.788	9.907	14.308	1.00	28.78
ATOM	4410	N	VAL	2174	28.870	10.241	13.547	1.00	28.51
ATOM	4411	CA	VAL	2174	28.543	11.509	12.889	1.00	29.09
ATOM	4412	CB	VAL	2174	29.417	12.698	13.419	1.00	28.76
ATOM	4413	CG1	VAL	2174	29.095	13.973	12.645	1.00	27.33
ATOM	4414	CG2	VAL	2174	29.180	12.908	14.909	1.00	27.78
ATOM	4415	C	VAL	2174	28.781	11.397	11.394	1.00	30.09
ATOM	4416	O	VAL	2174	29.792	10.851	10.949	1.00	30.49
ATOM	4417	N	LYS	2175	27.852	11.932	10.617	1.00	31.14
ATOM	4418	CA	LYS	2175	27.975	11.881	9.175	1.00	32.35
ATOM	4419	CB	LYS	2175	27.024	10.822	8.613	1.00	32.05
ATOM	4420	CG	LYS	2175	26.899	10.844	7.099	1.00	34.13
ATOM	4421	CD	LYS	2175	26.295	9.545	6.572	1.00	35.66
ATOM	4422	CE	LYS	2175	26.268	9.531	5.055	1.00	37.66
ATOM	4423	NZ	LYS	2175	25.865	8.206	4.490	1.00	39.96
ATOM	4424	C	LYS	2175	27.689	13.236	8.530	1.00	32.92
ATOM	4425	O	LYS	2175	26.611	13.802	8.713	1.00	32.90
ATOM	4426	N	PHE	2176	28.668	13.755	7.791	1.00	33.16
ATOM	4427	CA	PHE	2176	28.514	15.026	7.090	1.00	33.55
ATOM	4428	CB	PHE	2176	29.691	15.970	7.347	1.00	33.25
ATOM	4429	CG	PHE	2176	29.859	16.378	8.786	1.00	34.34
ATOM	4430	CD1	PHE	2176	28.774	16.830	9.534	1.00	33.63
ATOM	4431	CD2	PHE	2176	31.117	16.338	9.389	1.00	33.78
ATOM	4432	CE1	PHE	2176	28.942	17.234	10.852	1.00	33.41
ATOM	4433	CE2	PHE	2176	31.288	16.743	10.712	1.00	33.39
ATOM	4434	CZ	PHE	2176	30.198	17.190	11.440	1.00	32.98
ATOM	4435	C	PHE	2176	28.469	14.736	5.601	1.00	34.40
ATOM	4436	O	PHE	2176	29.196	13.880	5.104	1.00	35.38
ATOM	4437	N	LYS	2177	27.629	15.460	4.881	1.00	35.14
ATOM	4438	CA	LYS	2177	27.521	15.248	3.455	1.00	36.24
ATOM	4439	CB	LYS	2177	26.342	14.322	3.177	1.00	35.89
ATOM	4440	CG	LYS	2177	25.022	14.868	3.667	1.00	36.13
ATOM	4441	CD	LYS	2177	24.068	13.734	3.991	1.00	38.00
ATOM	4442	CE	LYS	2177	22.963	14.189	4.941	1.00	38.26
ATOM	4443	NZ	LYS	2177	22.188	13.028	5.472	1.00	39.47
ATOM	4444	C	LYS	2177	27.361	16.546	2.670	1.00	37.27
ATOM	4445	O	LYS	2177	26.779	17.516	3.146	1.00	37.30
ATOM	4446	N	CYS	2178	27.888	16.548	1.455	1.00	38.80
ATOM	4447	CA	CYS	2178	27.798	17.702	0.569	1.00	40.55
ATOM	4448	CB	CYS	2178	29.128	18.449	0.536	1.00	41.15
ATOM	4449	SG	CYS	2178	29.573	19.141	2.127	1.00	42.48
ATOM	4450	C	CYS	2178	27.461	17.209	-0.825	1.00	40.91
ATOM	4451	O	CYS	2178	28.284	17.281	-1.732	1.00	40.87
ATOM	4452	N	PRO	2179	26.240	16.692	-1.010	1.00	41.63
ATOM	4453	CD	PRO	2179	25.160	16.546	-0.021	1.00	41.07
ATOM	4454	CA	PRO	2179	25.817	16.185	-2.312	1.00	42.34
ATOM	4455	CB	PRO	2179	24.363	15.794	-2.069	1.00	41.77
ATOM	4456	CG	PRO	2179	24.347	15.446	-0.624	1.00	41.36
ATOM	4457	C	PRO	2179	25.957	17.253	-3.383	1.00	43.74
ATOM	4458	O	PRO	2179	25.379	18.341	-3.279	1.00	44.41

ATOM	4459	N	SER	2180	26.742	16.949	-4.407	1.00	45.16
ATOM	4460	CA	SER	2180	26.937	17.892	-5.492	1.00	46.33
ATOM	4461	CB	SER	2180	28.117	18.829	-5.184	1.00	46.99
ATOM	4462	OG	SER	2180	29.325	18.121	-4.972	1.00	47.89
ATOM	4463	C	SER	2180	27.166	17.167	-6.802	1.00	46.69
ATOM	4464	O	SER	2180	27.104	15.940	-6.872	1.00	46.56
ATOM	4465	N	SER	2181	27.400	17.938	-7.854	1.00	47.95
ATOM	4466	CA	SER	2181	27.662	17.353	-9.159	1.00	48.36
ATOM	4467	CB	SER	2181	26.369	16.851	-9.811	1.00	48.23
ATOM	4468	OG	SER	2181	26.668	15.915	-10.837	1.00	48.14
ATOM	4469	C	SER	2181	28.353	18.366	-10.056	1.00	48.58
ATOM	4470	O	SER	2181	28.694	19.470	-9.622	1.00	48.69
ATOM	4471	N	GLY	2182	28.562	17.974	-11.306	1.00	48.78
ATOM	4472	CA	GLY	2182	29.230	18.831	-12.259	1.00	48.82
ATOM	4473	C	GLY	2182	30.009	17.951	-13.207	1.00	49.05
ATOM	4474	O	GLY	2182	30.203	16.762	-12.946	1.00	49.04
ATOM	4475	N	THR	2183	30.457	18.528	-14.312	1.00	49.35
ATOM	4476	CA	THR	2183	31.214	17.768	-15.291	1.00	49.45
ATOM	4477	CB	THR	2183	30.282	17.325	-16.454	1.00	50.04
ATOM	4478	OG1	THR	2183	29.456	18.421	-16.858	1.00	50.89
ATOM	4479	CG2	THR	2183	29.360	16.189	-15.988	1.00	50.87
ATOM	4480	C	THR	2183	32.419	18.557	-15.801	1.00	48.88
ATOM	4481	O	THR	2183	32.303	19.720	-16.180	1.00	48.04
ATOM	4482	N	PRO	2184	33.606	17.937	-15.771	1.00	48.98
ATOM	4483	CD	PRO	2184	34.893	18.577	-16.092	1.00	48.47
ATOM	4484	CA	PRO	2184	33.803	16.565	-15.283	1.00	49.10
ATOM	4485	CB	PRO	2184	35.287	16.326	-15.551	1.00	49.11
ATOM	4486	CG	PRO	2184	35.878	17.705	-15.359	1.00	49.00
ATOM	4487	C	PRO	2184	33.429	16.415	-13.799	1.00	48.91
ATOM	4488	O	PRO	2184	33.314	17.413	-13.075	1.00	49.04
ATOM	4489	N	GLN	2185	33.229	15.177	-13.354	1.00	48.65
ATOM	4490	CA	GLN	2185	32.863	14.923	-11.967	1.00	47.59
ATOM	4491	CB	GLN	2185	32.781	13.423	-11.700	1.00	47.63
ATOM	4492	CG	GLN	2185	31.829	13.047	-10.573	1.00	47.53
ATOM	4493	CD	GLN	2185	30.363	13.301	-10.922	1.00	47.56
ATOM	4494	OE1	GLN	2185	29.481	13.137	-10.084	1.00	47.06
ATOM	4495	NE2	GLN	2185	30.103	13.695	-12.164	1.00	47.86
ATOM	4496	C	GLN	2185	33.894	15.562	-11.053	1.00	47.39
ATOM	4497	O	GLN	2185	35.092	15.325	-11.189	1.00	47.73
ATOM	4498	N	PRO	2186	33.437	16.402	-10.113	1.00	47.07
ATOM	4499	CD	PRO	2186	32.044	16.855	-9.951	1.00	47.24
ATOM	4500	CA	PRO	2186	34.320	17.091	-9.169	1.00	46.33
ATOM	4501	CB	PRO	2186	33.432	18.218	-8.646	1.00	46.67
ATOM	4502	CG	PRO	2186	32.094	17.583	-8.629	1.00	46.84
ATOM	4503	C	PRO	2186	34.847	16.193	-8.055	1.00	45.40
ATOM	4504	O	PRO	2186	34.193	15.227	-7.673	1.00	44.57
ATOM	4505	N	THR	2187	36.039	16.511	-7.549	1.00	45.02
ATOM	4506	CA	THR	2187	36.635	15.725	-6.468	1.00	44.28
ATOM	4507	CB	THR	2187	38.176	15.832	-6.430	1.00	44.83
ATOM	4508	OG1	THR	2187	38.553	17.074	-5.814	1.00	45.38
ATOM	4509	CG2	THR	2187	38.753	15.754	-7.836	1.00	44.35
ATOM	4510	C	THR	2187	36.108	16.249	-5.143	1.00	43.08
ATOM	4511	O	THR	2187	35.550	17.350	-5.071	1.00	42.73
ATOM	4512	N	LEU	2188	36.300	15.461	-4.092	1.00	42.20
ATOM	4513	CA	LEU	2188	35.827	15.835	-2.770	1.00	40.81
ATOM	4514	CB	LEU	2188	34.551	15.050	-2.445	1.00	41.49
ATOM	4515	CG	LEU	2188	33.661	15.325	-1.219	1.00	41.58
ATOM	4516	CD1	LEU	2188	33.495	14.025	-0.441	1.00	41.25
ATOM	4517	CD2	LEU	2188	34.240	16.413	-0.337	1.00	42.14
ATOM	4518	C	LEU	2188	36.874	15.557	-1.707	1.00	40.20
ATOM	4519	O	LEU	2188	37.314	14.417	-1.542	1.00	40.39
ATOM	4520	N	ARG	2189	37.276	16.602	-0.991	1.00	39.09

ATOM	4521	CA	ARG	2189	38.241	16.447	0.087	1.00	37.74
ATOM	4522	CB	ARG	2189	39.619	16.973	-0.338	1.00	37.43
ATOM	4523	CG	ARG	2189	39.688	18.438	-0.722	1.00	39.19
ATOM	4524	CD	ARG	2189	40.955	18.722	-1.558	1.00	40.39
ATOM	4525	NE	ARG	2189	41.494	20.055	-1.303	1.00	40.93
ATOM	4526	CZ	ARG	2189	42.104	20.402	-0.169	1.00	41.92
ATOM	4527	NH1	ARG	2189	42.261	19.509	0.813	1.00	41.88
ATOM	4528	NH2	ARG	2189	42.539	21.648	-0.001	1.00	42.68
ATOM	4529	C	ARG	2189	37.699	17.177	1.310	1.00	36.62
ATOM	4530	O	ARG	2189	36.937	18.137	1.178	1.00	36.82
ATOM	4531	N	TRP	2190	38.061	16.700	2.497	1.00	35.09
ATOM	4532	CA	TRP	2190	37.587	17.303	3.734	1.00	33.81
ATOM	4533	CB	TRP	2190	36.871	16.260	4.588	1.00	32.95
ATOM	4534	CG	TRP	2190	35.621	15.713	3.975	1.00	32.18
ATOM	4535	CD2	TRP	2190	34.292	16.193	4.192	1.00	32.29
ATOM	4536	CE2	TRP	2190	33.425	15.385	3.420	1.00	32.14
ATOM	4537	CE3	TRP	2190	33.747	17.227	4.967	1.00	31.77
ATOM	4538	CD1	TRP	2190	35.516	14.666	3.105	1.00	31.54
ATOM	4539	NE1	TRP	2190	34.196	14.462	2.767	1.00	31.62
ATOM	4540	CZ2	TRP	2190	32.038	15.580	3.403	1.00	32.74
ATOM	4541	CZ3	TRP	2190	32.369	17.422	4.951	1.00	31.59
ATOM	4542	CH2	TRP	2190	31.530	16.601	4.173	1.00	31.96
ATOM	4543	C	TRP	2190	38.692	17.929	4.560	1.00	33.87
ATOM	4544	O	TRP	2190	39.827	17.460	4.564	1.00	33.86
ATOM	4545	N	LEU	2191	38.351	18.997	5.265	1.00	33.88
ATOM	4546	CA	LEU	2191	39.308	19.674	6.116	1.00	33.78
ATOM	4547	CB	LEU	2191	39.545	21.105	5.629	1.00	33.96
ATOM	4548	CG	LEU	2191	40.125	21.333	4.228	1.00	35.06
ATOM	4549	CD1	LEU	2191	40.425	22.824	4.063	1.00	35.02
ATOM	4550	CD2	LEU	2191	41.403	20.508	4.022	1.00	34.14
ATOM	4551	C	LEU	2191	38.767	19.717	7.537	1.00	33.71
ATOM	4552	O	LEU	2191	37.558	19.694	7.754	1.00	33.45
ATOM	4553	N	LYS	2192	39.667	19.758	8.508	1.00	33.64
ATOM	4554	CA	LYS	2192	39.254	19.866	9.891	1.00	33.48
ATOM	4555	CB	LYS	2192	39.718	18.662	10.701	1.00	31.81
ATOM	4556	CG	LYS	2192	39.312	18.749	12.153	1.00	30.33
ATOM	4557	CD	LYS	2192	39.782	17.537	12.926	1.00	29.72
ATOM	4558	CE	LYS	2192	39.709	17.781	14.417	1.00	27.70
ATOM	4559	NZ	LYS	2192	40.189	16.594	15.165	1.00	28.37
ATOM	4560	C	LYS	2192	39.895	21.153	10.394	1.00	33.87
ATOM	4561	O	LYS	2192	41.110	21.274	10.468	1.00	33.51
ATOM	4562	N	ASN	2193	39.061	22.128	10.709	1.00	34.95
ATOM	4563	CA	ASN	2193	39.539	23.418	11.177	1.00	36.22
ATOM	4564	CB	ASN	2193	40.297	23.280	12.501	1.00	36.40
ATOM	4565	CG	ASN	2193	39.446	22.701	13.613	1.00	37.32
ATOM	4566	OD1	ASN	2193	38.274	23.063	13.779	1.00	38.01
ATOM	4567	ND2	ASN	2193	40.037	21.805	14.398	1.00	36.47
ATOM	4568	C	ASN	2193	40.455	24.072	10.139	1.00	37.23
ATOM	4569	O	ASN	2193	41.493	24.644	10.479	1.00	37.29
ATOM	4570	N	GLY	2194	40.071	23.978	8.871	1.00	37.92
ATOM	4571	CA	GLY	2194	40.851	24.586	7.809	1.00	37.94
ATOM	4572	C	GLY	2194	42.102	23.860	7.356	1.00	38.70
ATOM	4573	O	GLY	2194	42.680	24.209	6.330	1.00	39.05
ATOM	4574	N	LYS	2195	42.542	22.859	8.105	1.00	38.75
ATOM	4575	CA	LYS	2195	43.742	22.130	7.716	1.00	39.17
ATOM	4576	CB	LYS	2195	44.643	21.901	8.937	1.00	37.81
ATOM	4577	C	LYS	2195	43.407	20.798	7.051	1.00	39.81
ATOM	4578	O	LYS	2195	42.247	20.397	6.978	1.00	40.00
ATOM	4579	N	GLU	2196	44.433	20.118	6.555	1.00	40.79
ATOM	4580	CA	GLU	2196	44.243	18.830	5.907	1.00	41.19
ATOM	4581	CB	GLU	2196	45.556	18.372	5.270	1.00	42.59
ATOM	4582	CG	GLU	2196	45.501	16.989	4.612	1.00	44.96

ATOM	4583	CD	GLU	2196	46.795	16.630	3.881	1.00	46.10
ATOM	4584	OE1	GLU	2196	47.873	16.638	4.523	1.00	46.26
ATOM	4585	OE2	GLU	2196	46.728	16.339	2.664	1.00	46.71
ATOM	4586	C	GLU	2196	43.796	17.830	6.960	1.00	40.77
ATOM	4587	O	GLU	2196	44.272	17.865	8.096	1.00	40.55
ATOM	4588	N	PHE	2197	42.881	16.943	6.585	1.00	40.31
ATOM	4589	CA	PHE	2197	42.374	15.939	7.509	1.00	39.98
ATOM	4590	CB	PHE	2197	40.849	16.080	7.654	1.00	38.88
ATOM	4591	CG	PHE	2197	40.260	15.284	8.794	1.00	37.45
ATOM	4592	CD1	PHE	2197	38.970	14.767	8.701	1.00	36.52
ATOM	4593	CD2	PHE	2197	40.981	15.074	9.968	1.00	37.10
ATOM	4594	CE1	PHE	2197	38.401	14.054	9.753	1.00	35.13
ATOM	4595	CE2	PHE	2197	40.421	14.359	11.032	1.00	36.46
ATOM	4596	CZ	PHE	2197	39.127	13.848	10.921	1.00	35.64
ATOM	4597	C	PHE	2197	42.720	14.540	7.003	1.00	40.43
ATOM	4598	O	PHE	2197	42.274	14.133	5.931	1.00	40.64
ATOM	4599	N	LYS	2198	43.522	13.813	7.775	1.00	40.97
ATOM	4600	CA	LYS	2198	43.928	12.457	7.422	1.00	41.19
ATOM	4601	CB	LYS	2198	45.453	12.307	7.483	1.00	42.21
ATOM	4602	CG	LYS	2198	46.248	13.122	6.473	1.00	45.12
ATOM	4603	CD	LYS	2198	47.749	12.797	6.563	1.00	46.78
ATOM	4604	CE	LYS	2198	48.583	13.659	5.612	1.00	48.13
ATOM	4605	NZ	LYS	2198	50.057	13.393	5.734	1.00	49.26
ATOM	4606	C	LYS	2198	43.328	11.457	8.399	1.00	40.67
ATOM	4607	O	LYS	2198	43.251	11.713	9.593	1.00	40.71
ATOM	4608	N	PRO	2199	42.909	10.294	7.901	1.00	40.52
ATOM	4609	CD	PRO	2199	42.843	9.905	6.480	1.00	40.17
ATOM	4610	CA	PRO	2199	42.328	9.254	8.752	1.00	40.50
ATOM	4611	CB	PRO	2199	42.288	8.051	7.820	1.00	40.17
ATOM	4612	CG	PRO	2199	41.941	8.684	6.510	1.00	39.88
ATOM	4613	C	PRO	2199	43.140	8.979	10.013	1.00	40.66
ATOM	4614	O	PRO	2199	42.578	8.663	11.060	1.00	40.75
ATOM	4615	N	ASP	2200	44.462	9.099	9.923	1.00	41.02
ATOM	4616	CA	ASP	2200	45.299	8.842	11.086	1.00	41.36
ATOM	4617	CB	ASP	2200	46.760	8.670	10.687	1.00	43.35
ATOM	4618	CG	ASP	2200	47.052	7.288	10.140	1.00	46.00
ATOM	4619	OD1	ASP	2200	46.331	6.335	10.510	1.00	47.14
ATOM	4620	OD2	ASP	2200	48.018	7.146	9.354	1.00	48.08
ATOM	4621	C	ASP	2200	45.202	9.925	12.139	1.00	40.96
ATOM	4622	O	ASP	2200	45.840	9.824	13.188	1.00	40.84
ATOM	4623	N	HIS	2201	44.408	10.958	11.876	1.00	40.03
ATOM	4624	CA	HIS	2201	44.281	12.026	12.852	1.00	39.15
ATOM	4625	CB	HIS	2201	43.845	13.323	12.183	1.00	39.13
ATOM	4626	CG	HIS	2201	44.881	13.897	11.274	1.00	38.72
ATOM	4627	CD2	HIS	2201	44.798	14.839	10.305	1.00	39.08
ATOM	4628	ND1	HIS	2201	46.201	13.512	11.323	1.00	38.66
ATOM	4629	CE1	HIS	2201	46.889	14.192	10.424	1.00	38.95
ATOM	4630	NE2	HIS	2201	46.061	15.004	9.793	1.00	38.90
ATOM	4631	C	HIS	2201	43.345	11.663	13.991	1.00	38.44
ATOM	4632	O	HIS	2201	43.240	12.393	14.974	1.00	38.68
ATOM	4633	N	ARG	2202	42.672	10.529	13.872	1.00	37.17
ATOM	4634	CA	ARG	2202	41.782	10.101	14.936	1.00	36.72
ATOM	4635	CB	ARG	2202	40.361	10.583	14.671	1.00	35.70
ATOM	4636	CG	ARG	2202	39.625	9.829	13.601	1.00	34.24
ATOM	4637	CD	ARG	2202	38.337	10.547	13.308	1.00	35.17
ATOM	4638	NE	ARG	2202	37.538	10.757	14.512	1.00	34.44
ATOM	4639	CZ	ARG	2202	36.628	9.902	14.965	1.00	33.51
ATOM	4640	NH1	ARG	2202	36.397	8.775	14.314	1.00	33.29
ATOM	4641	NH2	ARG	2202	35.938	10.180	16.061	1.00	33.23
ATOM	4642	C	ARG	2202	41.805	8.587	15.036	1.00	37.41
ATOM	4643	O	ARG	2202	41.929	7.898	14.023	1.00	37.43
ATOM	4644	N	ILE	2203	41.701	8.057	16.250	1.00	37.98

ATOM	4645	CA	ILE	2203	41.720	6.613	16.382	1.00	39.08
ATOM	4646	CB	ILE	2203	41.743	6.156	17.859	1.00	39.38
ATOM	4647	CG2	ILE	2203	40.365	6.320	18.491	1.00	39.25
ATOM	4648	CG1	ILE	2203	42.163	4.682	17.927	1.00	40.24
ATOM	4649	CD1	ILE	2203	43.505	4.368	17.263	1.00	39.74
ATOM	4650	C	ILE	2203	40.505	6.032	15.655	1.00	39.93
ATOM	4651	O	ILE	2203	39.357	6.480	15.836	1.00	39.85
ATOM	4652	N	GLY	2204	40.778	5.045	14.806	1.00	40.11
ATOM	4653	CA	GLY	2204	39.722	4.421	14.033	1.00	40.06
ATOM	4654	C	GLY	2204	39.524	5.131	12.705	1.00	40.07
ATOM	4655	O	GLY	2204	38.818	4.633	11.832	1.00	40.29
ATOM	4656	N	GLY	2205	40.146	6.298	12.557	1.00	39.47
ATOM	4657	CA	GLY	2205	40.028	7.063	11.331	1.00	38.74
ATOM	4658	C	GLY	2205	38.599	7.431	10.974	1.00	39.22
ATOM	4659	O	GLY	2205	37.731	7.551	11.838	1.00	38.55
ATOM	4660	N	TYR	2206	38.361	7.619	9.680	1.00	39.35
ATOM	4661	CA	TYR	2206	37.039	7.965	9.184	1.00	39.83
ATOM	4662	CB	TYR	2206	36.872	9.478	9.125	1.00	39.10
ATOM	4663	CG	TYR	2206	37.891	10.192	8.270	1.00	38.21
ATOM	4664	CD1	TYR	2206	39.018	10.792	8.841	1.00	38.18
ATOM	4665	CE1	TYR	2206	39.927	11.514	8.054	1.00	38.28
ATOM	4666	CD2	TYR	2206	37.701	10.317	6.894	1.00	38.11
ATOM	4667	CE2	TYR	2206	38.594	11.026	6.103	1.00	37.47
ATOM	4668	CZ	TYR	2206	39.702	11.627	6.683	1.00	38.27
ATOM	4669	OH	TYR	2206	40.563	12.356	5.891	1.00	38.52
ATOM	4670	C	TYR	2206	36.856	7.386	7.791	1.00	40.92
ATOM	4671	O	TYR	2206	37.812	6.910	7.184	1.00	41.39
ATOM	4672	N	LYS	2207	35.633	7.416	7.275	1.00	41.44
ATOM	4673	CA	LYS	2207	35.418	6.892	5.943	1.00	42.13
ATOM	4674	CB	LYS	2207	34.636	5.574	5.980	1.00	43.23
ATOM	4675	CG	LYS	2207	34.664	4.903	4.648	1.00	45.01
ATOM	4676	CD	LYS	2207	34.572	3.284	4.880	1.00	47.43
ATOM	4677	CE	LYS	2207	34.652	2.460	3.584	1.00	48.14
ATOM	4678	NZ	LYS	2207	34.582	0.977	3.861	1.00	48.95
ATOM	4679	C	LYS	2207	34.721	7.898	5.051	1.00	42.14
ATOM	4680	O	LYS	2207	33.757	8.553	5.457	1.00	42.22
ATOM	4681	N	VAL	2208	35.240	8.032	3.835	1.00	41.86
ATOM	4682	CA	VAL	2208	34.670	8.945	2.853	1.00	41.71
ATOM	4683	CB	VAL	2208	35.733	9.872	2.216	1.00	41.10
ATOM	4684	CG1	VAL	2208	35.090	10.713	1.122	1.00	39.60
ATOM	4685	CG2	VAL	2208	36.356	10.773	3.275	1.00	40.32
ATOM	4686	C	VAL	2208	34.041	8.135	1.738	1.00	42.20
ATOM	4687	O	VAL	2208	34.737	7.458	0.993	1.00	42.69
ATOM	4688	N	ARG	2209	32.721	8.189	1.643	1.00	42.87
ATOM	4689	CA	ARG	2209	31.991	7.491	0.596	1.00	43.67
ATOM	4690	CB	ARG	2209	30.651	6.975	1.129	1.00	45.79
ATOM	4691	CG	ARG	2209	30.475	5.463	1.113	1.00	49.62
ATOM	4692	CD	ARG	2209	31.078	4.813	-0.152	1.00	53.25
ATOM	4693	NE	ARG	2209	32.438	4.305	0.080	1.00	55.06
ATOM	4694	CZ	ARG	2209	33.445	4.410	-0.784	1.00	55.10
ATOM	4695	NH1	ARG	2209	33.263	5.008	-1.954	1.00	54.30
ATOM	4696	NH2	ARG	2209	34.638	3.922	-0.469	1.00	55.63
ATOM	4697	C	ARG	2209	31.730	8.546	-0.469	1.00	43.06
ATOM	4698	O	ARG	2209	30.834	9.375	-0.318	1.00	43.07
ATOM	4699	N	TYR	2210	32.508	8.517	-1.543	1.00	42.43
ATOM	4700	CA	TYR	2210	32.365	9.503	-2.603	1.00	41.19
ATOM	4701	CB	TYR	2210	33.528	9.353	-3.584	1.00	39.09
ATOM	4702	CG	TYR	2210	34.859	9.509	-2.881	1.00	37.99
ATOM	4703	CD1	TYR	2210	35.490	8.417	-2.280	1.00	37.46
ATOM	4704	CE1	TYR	2210	36.665	8.581	-1.555	1.00	37.15
ATOM	4705	CD2	TYR	2210	35.445	10.766	-2.741	1.00	37.16
ATOM	4706	CE2	TYR	2210	36.607	10.938	-2.023	1.00	36.76

ATOM	4707	CZ	TYR	2210	37.214	9.851	-1.428	1.00	37.26
ATOM	4708	OH	TYR	2210	38.358	10.054	-0.684	1.00	37.31
ATOM	4709	C	TYR	2210	31.030	9.457	-3.317	1.00	40.83
ATOM	4710	O	TYR	2210	30.536	10.493	-3.775	1.00	41.54
ATOM	4711	N	ALA	2211	30.437	8.270	-3.397	1.00	40.03
ATOM	4712	CA	ALA	2211	29.146	8.127	-4.067	1.00	39.77
ATOM	4713	CB	ALA	2211	28.725	6.658	-4.084	1.00	39.04
ATOM	4714	C	ALA	2211	28.072	8.975	-3.378	1.00	39.57
ATOM	4715	O	ALA	2211	27.156	9.489	-4.028	1.00	39.59
ATOM	4716	N	THR	2212	28.198	9.127	-2.064	1.00	38.75
ATOM	4717	CA	THR	2212	27.235	9.900	-1.295	1.00	38.30
ATOM	4718	CB	THR	2212	26.733	9.098	-0.060	1.00	38.57
ATOM	4719	OG1	THR	2212	27.854	8.649	0.714	1.00	39.63
ATOM	4720	CG2	THR	2212	25.924	7.887	-0.495	1.00	37.48
ATOM	4721	C	THR	2212	27.799	11.230	-0.809	1.00	38.18
ATOM	4722	O	THR	2212	27.165	11.919	-0.012	1.00	38.33
ATOM	4723	N	TRP	2213	28.989	11.587	-1.287	1.00	37.72
ATOM	4724	CA	TRP	2213	29.634	12.838	-0.898	1.00	37.00
ATOM	4725	CB	TRP	2213	28.923	14.025	-1.545	1.00	36.92
ATOM	4726	CG	TRP	2213	28.820	13.879	-3.012	1.00	37.85
ATOM	4727	CD2	TRP	2213	29.714	14.418	-3.988	1.00	37.80
ATOM	4728	CE2	TRP	2213	29.277	13.964	-5.254	1.00	38.22
ATOM	4729	CE3	TRP	2213	30.849	15.240	-3.920	1.00	38.14
ATOM	4730	CD1	TRP	2213	27.897	13.141	-3.703	1.00	38.23
ATOM	4731	NE1	TRP	2213	28.165	13.185	-5.049	1.00	37.28
ATOM	4732	CZ2	TRP	2213	29.934	14.305	-6.445	1.00	37.74
ATOM	4733	CZ3	TRP	2213	31.505	15.580	-5.106	1.00	37.85
ATOM	4734	CH2	TRP	2213	31.043	15.111	-6.350	1.00	37.54
ATOM	4735	C	TRP	2213	29.589	12.985	0.610	1.00	36.70
ATOM	4736	O	TRP	2213	29.217	14.034	1.130	1.00	36.53
ATOM	4737	N	SER	2214	29.987	11.932	1.310	1.00	36.52
ATOM	4738	CA	SER	2214	29.944	11.934	2.770	1.00	36.47
ATOM	4739	CB	SER	2214	28.869	10.972	3.278	1.00	36.34
ATOM	4740	OG	SER	2214	27.706	11.032	2.485	1.00	39.55
ATOM	4741	C	SER	2214	31.222	11.504	3.446	1.00	35.38
ATOM	4742	O	SER	2214	32.053	10.814	2.864	1.00	35.14
ATOM	4743	N	ILE	2215	31.340	11.907	4.704	1.00	34.01
ATOM	4744	CA	ILE	2215	32.459	11.531	5.538	1.00	33.45
ATOM	4745	CB	ILE	2215	33.389	12.736	5.863	1.00	33.89
ATOM	4746	CG2	ILE	2215	32.612	13.861	6.543	1.00	33.90
ATOM	4747	CG1	ILE	2215	34.533	12.268	6.763	1.00	33.44
ATOM	4748	CD1	ILE	2215	35.590	13.321	7.025	1.00	33.51
ATOM	4749	C	ILE	2215	31.786	11.007	6.802	1.00	33.08
ATOM	4750	O	ILE	2215	30.842	11.620	7.305	1.00	33.16
ATOM	4751	N	ILE	2216	32.243	9.859	7.289	1.00	32.46
ATOM	4752	CA	ILE	2216	31.659	9.258	8.478	1.00	32.10
ATOM	4753	CB	ILE	2216	31.085	7.858	8.201	1.00	32.72
ATOM	4754	CG2	ILE	2216	30.077	7.506	9.272	1.00	32.36
ATOM	4755	CG1	ILE	2216	30.446	7.798	6.813	1.00	32.60
ATOM	4756	CD1	ILE	2216	29.437	8.855	6.573	1.00	32.91
ATOM	4757	C	ILE	2216	32.692	9.082	9.569	1.00	32.33
ATOM	4758	O	ILE	2216	33.785	8.571	9.334	1.00	32.56
ATOM	4759	N	MSE	2217	32.349	9.517	10.768	1.00	32.03
ATOM	4760	CA	MSE	2217	33.250	9.362	11.893	1.00	32.22
ATOM	4761	CB	MSE	2217	33.632	10.721	12.501	1.00	32.33
ATOM	4762	CG	MSE	2217	34.537	11.597	11.636	1.00	32.35
ATOM	4763	SE	MSE	2217	35.099	13.110	12.484	1.00	31.09
ATOM	4764	CE	MSE	2217	33.966	14.320	11.777	1.00	32.29
ATOM	4765	C	MSE	2217	32.504	8.527	12.925	1.00	32.43
ATOM	4766	O	MSE	2217	31.415	8.913	13.373	1.00	32.63
ATOM	4767	N	ASP	2218	33.060	7.367	13.276	1.00	31.94
ATOM	4768	CA	ASP	2218	32.425	6.523	14.284	1.00	31.62

ATOM	4769	CB	ASP	2218	32.741	5.034	14.096	1.00	32.01
ATOM	4770	CG	ASP	2218	31.762	4.337	13.163	1.00	34.43
ATOM	4771	OD1	ASP	2218	30.640	4.862	12.982	1.00	36.54
ATOM	4772	OD2	ASP	2218	32.098	3.259	12.618	1.00	34.27
ATOM	4773	C	ASP	2218	32.897	6.938	15.664	1.00	30.95
ATOM	4774	O	ASP	2218	34.019	7.396	15.834	1.00	30.16
ATOM	4775	N	SER	2219	32.011	6.794	16.643	1.00	31.38
ATOM	4776	CA	SER	2219	32.302	7.108	18.040	1.00	30.72
ATOM	4777	CB	SER	2219	33.119	5.961	18.642	1.00	30.89
ATOM	4778	OG	SER	2219	33.430	6.206	20.005	1.00	33.89
ATOM	4779	C	SER	2219	33.032	8.435	18.284	1.00	30.40
ATOM	4780	O	SER	2219	34.166	8.451	18.765	1.00	30.11
ATOM	4781	N	VAL	2220	32.387	9.556	17.980	1.00	29.82
ATOM	4782	CA	VAL	2220	33.046	10.842	18.186	1.00	29.20
ATOM	4783	CB	VAL	2220	32.201	12.023	17.666	1.00	28.49
ATOM	4784	CG1	VAL	2220	32.008	11.890	16.171	1.00	29.39
ATOM	4785	CG2	VAL	2220	30.858	12.066	18.375	1.00	27.85
ATOM	4786	C	VAL	2220	33.363	11.108	19.653	1.00	29.37
ATOM	4787	O	VAL	2220	32.656	10.648	20.553	1.00	29.99
ATOM	4788	N	VAL	2221	34.445	11.836	19.895	1.00	28.16
ATOM	4789	CA	VAL	2221	34.815	12.190	21.254	1.00	27.89
ATOM	4790	CB	VAL	2221	35.972	11.320	21.816	1.00	27.85
ATOM	4791	CG1	VAL	2221	35.480	9.897	21.995	1.00	28.04
ATOM	4792	CG2	VAL	2221	37.193	11.363	20.891	1.00	27.75
ATOM	4793	C	VAL	2221	35.185	13.660	21.257	1.00	27.74
ATOM	4794	O	VAL	2221	35.314	14.274	20.200	1.00	27.91
ATOM	4795	N	PRO	2222	35.331	14.257	22.446	1.00	27.31
ATOM	4796	CD	PRO	2222	35.131	13.669	23.780	1.00	28.60
ATOM	4797	CA	PRO	2222	35.679	15.675	22.566	1.00	27.86
ATOM	4798	CB	PRO	2222	36.104	15.802	24.021	1.00	26.70
ATOM	4799	CG	PRO	2222	35.156	14.897	24.697	1.00	27.46
ATOM	4800	C	PRO	2222	36.740	16.211	21.600	1.00	28.28
ATOM	4801	O	PRO	2222	36.608	17.324	21.084	1.00	27.38
ATOM	4802	N	SER	2223	37.786	15.428	21.348	1.00	28.73
ATOM	4803	CA	SER	2223	38.839	15.881	20.450	1.00	29.47
ATOM	4804	CB	SER	2223	40.075	14.993	20.584	1.00	30.01
ATOM	4805	OG	SER	2223	39.780	13.649	20.255	1.00	31.64
ATOM	4806	C	SER	2223	38.398	15.941	18.987	1.00	30.05
ATOM	4807	O	SER	2223	39.156	16.385	18.129	1.00	30.31
ATOM	4808	N	ASP	2224	37.182	15.496	18.691	1.00	30.07
ATOM	4809	CA	ASP	2224	36.706	15.570	17.319	1.00	30.52
ATOM	4810	CB	ASP	2224	35.785	14.389	16.990	1.00	31.19
ATOM	4811	CG	ASP	2224	36.525	13.049	17.007	1.00	31.26
ATOM	4812	OD1	ASP	2224	37.579	12.946	16.350	1.00	30.69
ATOM	4813	OD2	ASP	2224	36.058	12.103	17.677	1.00	31.47
ATOM	4814	C	ASP	2224	35.974	16.888	17.116	1.00	30.77
ATOM	4815	O	ASP	2224	35.614	17.234	15.993	1.00	30.77
ATOM	4816	N	LYS	2225	35.763	17.629	18.204	1.00	31.05
ATOM	4817	CA	LYS	2225	35.078	18.913	18.112	1.00	31.24
ATOM	4818	CB	LYS	2225	34.977	19.587	19.482	1.00	31.76
ATOM	4819	CG	LYS	2225	34.106	18.836	20.472	1.00	33.15
ATOM	4820	CD	LYS	2225	33.373	19.766	21.423	1.00	33.22
ATOM	4821	CE	LYS	2225	34.309	20.421	22.416	1.00	34.64
ATOM	4822	NZ	LYS	2225	33.538	21.135	23.477	1.00	34.82
ATOM	4823	C	LYS	2225	35.809	19.838	17.144	1.00	31.39
ATOM	4824	O	LYS	2225	37.038	19.884	17.133	1.00	31.58
ATOM	4825	N	GLY	2226	35.052	20.561	16.325	1.00	30.81
ATOM	4826	CA	GLY	2226	35.671	21.460	15.378	1.00	31.22
ATOM	4827	C	GLY	2226	34.829	21.724	14.153	1.00	31.51
ATOM	4828	O	GLY	2226	33.686	21.287	14.065	1.00	31.85
ATOM	4829	N	ASN	2227	35.408	22.449	13.205	1.00	31.79
ATOM	4830	CA	ASN	2227	34.729	22.786	11.970	1.00	32.38

ATOM	4831	CB	ASN	2227	35.043	24.236	11.579	1.00	32.35
ATOM	4832	CG	ASN	2227	34.314	25.243	12.452	1.00	34.00
ATOM	4833	OD1	ASN	2227	33.081	25.212	12.559	1.00	34.93
ATOM	4834	ND2	ASN	2227	35.067	26.143	13.082	1.00	34.13
ATOM	4835	C	ASN	2227	35.187	21.846	10.872	1.00	32.37
ATOM	4836	O	ASN	2227	36.382	21.626	10.694	1.00	32.62
ATOM	4837	N	TYR	2228	34.242	21.278	10.138	1.00	31.82
ATOM	4838	CA	TYR	2228	34.614	20.389	9.058	1.00	31.42
ATOM	4839	CB	TYR	2228	34.048	18.995	9.289	1.00	29.67
ATOM	4840	CG	TYR	2228	34.669	18.302	10.475	1.00	28.19
ATOM	4841	CD1	TYR	2228	34.271	18.610	11.777	1.00	27.01
ATOM	4842	CE1	TYR	2228	34.842	17.957	12.874	1.00	27.51
ATOM	4843	CD2	TYR	2228	35.657	17.327	10.293	1.00	27.73
ATOM	4844	CE2	TYR	2228	36.236	16.665	11.377	1.00	27.75
ATOM	4845	CZ	TYR	2228	35.826	16.980	12.666	1.00	27.54
ATOM	4846	OH	TYR	2228	36.395	16.316	13.732	1.00	27.00
ATOM	4847	C	TYR	2228	34.122	20.982	7.760	1.00	32.24
ATOM	4848	O	TYR	2228	32.936	21.262	7.590	1.00	31.64
ATOM	4849	N	THR	2229	35.062	21.192	6.847	1.00	33.42
ATOM	4850	CA	THR	2229	34.754	21.790	5.563	1.00	34.80
ATOM	4851	CB	THR	2229	35.627	23.015	5.307	1.00	35.15
ATOM	4852	OG1	THR	2229	35.782	23.761	6.522	1.00	34.94
ATOM	4853	CG2	THR	2229	34.983	23.895	4.237	1.00	35.02
ATOM	4854	C	THR	2229	34.981	20.827	4.416	1.00	35.94
ATOM	4855	O	THR	2229	36.013	20.163	4.338	1.00	36.48
ATOM	4856	N	CYS	2230	34.010	20.764	3.519	1.00	37.07
ATOM	4857	CA	CYS	2230	34.098	19.901	2.354	1.00	38.16
ATOM	4858	CB	CYS	2230	32.742	19.285	2.056	1.00	38.34
ATOM	4859	SG	CYS	2230	31.533	20.583	1.637	1.00	40.57
ATOM	4860	C	CYS	2230	34.452	20.827	1.212	1.00	38.69
ATOM	4861	O	CYS	2230	33.921	21.932	1.128	1.00	38.52
ATOM	4862	N	ILE	2231	35.336	20.368	0.337	1.00	39.59
ATOM	4863	CA	ILE	2231	35.751	21.147	-0.812	1.00	40.84
ATOM	4864	CB	ILE	2231	37.237	21.539	-0.668	1.00	40.86
ATOM	4865	CG2	ILE	2231	37.772	22.116	-1.976	1.00	41.15
ATOM	4866	CG1	ILE	2231	37.369	22.555	0.472	1.00	40.07
ATOM	4867	CD1	ILE	2231	38.780	22.781	0.939	1.00	40.47
ATOM	4868	C	ILE	2231	35.500	20.346	-2.087	1.00	41.77
ATOM	4869	O	ILE	2231	36.165	19.351	-2.353	1.00	41.85
ATOM	4870	N	VAL	2232	34.507	20.783	-2.852	1.00	43.29
ATOM	4871	CA	VAL	2232	34.117	20.135	-4.099	1.00	45.42
ATOM	4872	CB	VAL	2232	32.569	20.045	-4.202	1.00	45.41
ATOM	4873	CG1	VAL	2232	32.143	19.573	-5.585	1.00	46.24
ATOM	4874	CG2	VAL	2232	32.046	19.091	-3.153	1.00	45.88
ATOM	4875	C	VAL	2232	34.646	20.960	-5.265	1.00	46.67
ATOM	4876	O	VAL	2232	34.295	22.130	-5.415	1.00	46.72
ATOM	4877	N	GLU	2233	35.478	20.359	-6.101	1.00	48.22
ATOM	4878	CA	GLU	2233	36.023	21.109	-7.217	1.00	50.18
ATOM	4879	CB	GLU	2233	37.237	21.914	-6.735	1.00	51.32
ATOM	4880	CG	GLU	2233	38.386	21.060	-6.194	1.00	53.80
ATOM	4881	CD	GLU	2233	39.312	21.834	-5.247	1.00	55.20
ATOM	4882	OE1	GLU	2233	39.546	23.037	-5.500	1.00	55.90
ATOM	4883	OE2	GLU	2233	39.811	21.236	-4.258	1.00	55.21
ATOM	4884	C	GLU	2233	36.405	20.295	-8.445	1.00	50.64
ATOM	4885	O	GLU	2233	36.634	19.085	-8.375	1.00	49.97
ATOM	4886	N	ASN	2234	36.431	20.988	-9.579	1.00	51.72
ATOM	4887	CA	ASN	2234	36.838	20.423	-10.861	1.00	52.70
ATOM	4888	CB	ASN	2234	35.648	19.851	-11.654	1.00	51.82
ATOM	4889	CG	ASN	2234	34.613	20.893	-12.018	1.00	51.42
ATOM	4890	OD1	ASN	2234	34.866	22.098	-11.957	1.00	50.88
ATOM	4891	ND2	ASN	2234	33.433	20.428	-12.419	1.00	50.97
ATOM	4892	C	ASN	2234	37.510	21.572	-11.617	1.00	53.87

ATOM	4893	O	ASN	2234	37.568	22.702	-11.118	1.00	54.19
ATOM	4894	N	GLU	2235	38.025	21.293	-12.806	1.00	54.95
ATOM	4895	CA	GLU	2235	38.706	22.316	-13.598	1.00	56.07
ATOM	4896	CB	GLU	2235	38.988	21.779	-14.999	1.00	57.22
ATOM	4897	CG	GLU	2235	39.889	20.564	-15.039	1.00	59.36
ATOM	4898	CD	GLU	2235	39.716	19.761	-16.329	1.00	61.03
ATOM	4899	OE1	GLU	2235	38.649	19.117	-16.496	1.00	61.00
ATOM	4900	OE2	GLU	2235	40.642	19.784	-17.176	1.00	61.61
ATOM	4901	C	GLU	2235	37.960	23.643	-13.739	1.00	55.91
ATOM	4902	O	GLU	2235	38.584	24.694	-13.884	1.00	56.22
ATOM	4903	N	TYR	2236	36.634	23.598	-13.682	1.00	55.84
ATOM	4904	CA	TYR	2236	35.817	24.796	-13.872	1.00	55.92
ATOM	4905	CB	TYR	2236	34.590	24.440	-14.705	1.00	57.98
ATOM	4906	CG	TYR	2236	34.943	23.862	-16.049	1.00	60.63
ATOM	4907	CD1	TYR	2236	35.580	22.622	-16.153	1.00	61.38
ATOM	4908	CE1	TYR	2236	35.949	22.102	-17.392	1.00	62.29
ATOM	4909	CD2	TYR	2236	34.680	24.570	-17.221	1.00	61.60
ATOM	4910	CE2	TYR	2236	35.045	24.056	-18.467	1.00	62.75
ATOM	4911	CZ	TYR	2236	35.679	22.925	-18.545	1.00	62.44
ATOM	4912	OH	TYR	2236	36.039	22.325	-19.775	1.00	63.37
ATOM	4913	C	TYR	2236	35.354	25.559	-12.644	1.00	55.06
ATOM	4914	O	TYR	2236	34.705	26.598	-12.775	1.00	55.01
ATOM	4915	N	GLY	2237	35.663	25.059	-11.455	1.00	53.84
ATOM	4916	CA	GLY	2237	35.226	25.766	-10.267	1.00	52.12
ATOM	4917	C	GLY	2237	35.282	24.947	-8.999	1.00	50.95
ATOM	4918	O	GLY	2237	35.463	23.728	-9.026	1.00	50.48
ATOM	4919	N	SER	2238	35.118	25.636	-7.876	1.00	50.13
ATOM	4920	CA	SER	2238	35.166	24.999	-6.571	1.00	48.85
ATOM	4921	CB	SER	2238	36.588	25.106	-6.002	1.00	48.81
ATOM	4922	OG	SER	2238	36.670	24.575	-4.690	1.00	49.44
ATOM	4923	C	SER	2238	34.181	25.623	-5.589	1.00	47.60
ATOM	4924	O	SER	2238	34.068	26.845	-5.497	1.00	46.99
ATOM	4925	N	ILE	2239	33.461	24.771	-4.869	1.00	45.96
ATOM	4926	CA	ILE	2239	32.526	25.237	-3.863	1.00	44.63
ATOM	4927	CB	ILE	2239	31.070	24.941	-4.232	1.00	44.34
ATOM	4928	CG2	ILE	2239	30.685	25.762	-5.448	1.00	44.32
ATOM	4929	CG1	ILE	2239	30.867	23.447	-4.468	1.00	43.70
ATOM	4930	CD1	ILE	2239	29.433	23.095	-4.841	1.00	42.21
ATOM	4931	C	ILE	2239	32.864	24.554	-2.551	1.00	44.25
ATOM	4932	O	ILE	2239	33.665	23.616	-2.520	1.00	44.20
ATOM	4933	N	ASN	2240	32.272	25.034	-1.466	1.00	43.32
ATOM	4934	CA	ASN	2240	32.543	24.451	-0.165	1.00	42.74
ATOM	4935	CB	ASN	2240	33.924	24.891	0.345	1.00	42.39
ATOM	4936	CG	ASN	2240	33.993	26.372	0.662	1.00	42.39
ATOM	4937	OD1	ASN	2240	33.242	26.879	1.495	1.00	42.55
ATOM	4938	ND2	ASN	2240	34.905	27.072	0.005	1.00	42.59
ATOM	4939	C	ASN	2240	31.471	24.788	0.862	1.00	42.27
ATOM	4940	O	ASN	2240	30.674	25.707	0.676	1.00	41.96
ATOM	4941	N	HIS	2241	31.462	24.020	1.946	1.00	41.58
ATOM	4942	CA	HIS	2241	30.494	24.197	3.016	1.00	40.51
ATOM	4943	CB	HIS	2241	29.277	23.316	2.755	1.00	41.07
ATOM	4944	CG	HIS	2241	28.072	23.688	3.560	1.00	42.82
ATOM	4945	CD2	HIS	2241	27.393	23.007	4.513	1.00	43.30
ATOM	4946	ND1	HIS	2241	27.392	24.873	3.377	1.00	42.91
ATOM	4947	CE1	HIS	2241	26.342	24.904	4.179	1.00	43.30
ATOM	4948	NE2	HIS	2241	26.319	23.783	4.878	1.00	43.85
ATOM	4949	C	HIS	2241	31.179	23.757	4.296	1.00	39.54
ATOM	4950	O	HIS	2241	32.035	22.872	4.273	1.00	39.23
ATOM	4951	N	THR	2242	30.819	24.379	5.412	1.00	38.52
ATOM	4952	CA	THR	2242	31.420	24.013	6.683	1.00	37.22
ATOM	4953	CB	THR	2242	32.370	25.111	7.212	1.00	36.83
ATOM	4954	OG1	THR	2242	33.419	25.329	6.265	1.00	36.71

ATOM	4955	CG2	THR	2242	33.007	24.673	8.541	1.00	36.35
ATOM	4956	C	THR	2242	30.400	23.692	7.762	1.00	36.30
ATOM	4957	O	THR	2242	29.454	24.438	7.992	1.00	37.17
ATOM	4958	N	TYR	2243	30.604	22.561	8.415	1.00	35.08
ATOM	4959	CA	TYR	2243	29.733	22.120	9.485	1.00	34.47
ATOM	4960	CB	TYR	2243	29.341	20.663	9.286	1.00	33.92
ATOM	4961	CG	TYR	2243	28.512	20.404	8.053	1.00	34.46
ATOM	4962	CD1	TYR	2243	29.089	19.888	6.889	1.00	34.20
ATOM	4963	CE1	TYR	2243	28.310	19.562	5.785	1.00	33.91
ATOM	4964	CD2	TYR	2243	27.131	20.602	8.071	1.00	34.23
ATOM	4965	CE2	TYR	2243	26.343	20.281	6.972	1.00	34.24
ATOM	4966	CZ	TYR	2243	26.935	19.756	5.833	1.00	34.30
ATOM	4967	OH	TYR	2243	26.143	19.399	4.766	1.00	33.85
ATOM	4968	C	TYR	2243	30.482	22.236	10.795	1.00	34.34
ATOM	4969	O	TYR	2243	31.709	22.108	10.835	1.00	34.23
ATOM	4970	N	GLN	2244	29.762	22.504	11.874	1.00	34.45
ATOM	4971	CA	GLN	2244	30.433	22.570	13.152	1.00	34.76
ATOM	4972	CB	GLN	2244	30.092	23.835	13.926	1.00	36.17
ATOM	4973	CG	GLN	2244	30.753	23.825	15.300	1.00	39.01
ATOM	4974	CD	GLN	2244	30.668	25.149	16.031	1.00	40.93
ATOM	4975	OE1	GLN	2244	29.824	26.000	15.724	1.00	42.17
ATOM	4976	NE2	GLN	2244	31.535	25.322	17.021	1.00	41.16
ATOM	4977	C	GLN	2244	30.025	21.355	13.951	1.00	33.80
ATOM	4978	O	GLN	2244	28.840	21.033	14.052	1.00	34.03
ATOM	4979	N	LEU	2245	31.021	20.663	14.491	1.00	32.38
ATOM	4980	CA	LEU	2245	30.771	19.480	15.294	1.00	31.36
ATOM	4981	CB	LEU	2245	31.676	18.332	14.868	1.00	30.16
ATOM	4982	CG	LEU	2245	31.473	17.087	15.730	1.00	29.54
ATOM	4983	CD1	LEU	2245	30.015	16.718	15.724	1.00	29.57
ATOM	4984	CD2	LEU	2245	32.315	15.943	15.217	1.00	30.03
ATOM	4985	C	LEU	2245	31.017	19.766	16.758	1.00	31.10
ATOM	4986	O	LEU	2245	32.083	20.232	17.143	1.00	31.15
ATOM	4987	N	ASP	2246	30.018	19.487	17.576	1.00	31.64
ATOM	4988	CA	ASP	2246	30.136	19.690	19.006	1.00	32.13
ATOM	4989	CB	ASP	2246	29.198	20.801	19.439	1.00	33.14
ATOM	4990	CG	ASP	2246	29.462	21.247	20.841	1.00	34.62
ATOM	4991	OD1	ASP	2246	28.931	22.309	21.220	1.00	35.69
ATOM	4992	OD2	ASP	2246	30.199	20.532	21.562	1.00	35.10
ATOM	4993	C	ASP	2246	29.776	18.386	19.707	1.00	32.20
ATOM	4994	O	ASP	2246	28.711	17.810	19.457	1.00	33.32
ATOM	4995	N	VAL	2247	30.669	17.902	20.560	1.00	31.15
ATOM	4996	CA	VAL	2247	30.419	16.660	21.269	1.00	30.49
ATOM	4997	CB	VAL	2247	31.551	15.667	21.036	1.00	29.19
ATOM	4998	CG1	VAL	2247	31.249	14.358	21.740	1.00	28.05
ATOM	4999	CG2	VAL	2247	31.726	15.460	19.548	1.00	27.71
ATOM	5000	C	VAL	2247	30.261	16.966	22.745	1.00	31.10
ATOM	5001	O	VAL	2247	31.083	17.645	23.339	1.00	32.18
ATOM	5002	N	VAL	2248	29.180	16.466	23.326	1.00	31.45
ATOM	5003	CA	VAL	2248	28.836	16.701	24.733	1.00	31.22
ATOM	5004	CB	VAL	2248	27.366	17.220	24.831	1.00	30.59
ATOM	5005	CG1	VAL	2248	26.958	17.377	26.270	1.00	30.54
ATOM	5006	CG2	VAL	2248	27.216	18.535	24.077	1.00	29.87
ATOM	5007	C	VAL	2248	28.919	15.402	25.545	1.00	31.25
ATOM	5008	O	VAL	2248	28.308	14.415	25.179	1.00	31.16
ATOM	5009	N	GLU	2249	29.631	15.363	26.656	1.00	31.21
ATOM	5010	CA	GLU	2249	29.670	14.095	27.390	1.00	31.91
ATOM	5011	CB	GLU	2249	31.043	13.916	28.040	1.00	32.28
ATOM	5012	CG	GLU	2249	32.153	14.052	27.021	1.00	34.76
ATOM	5013	CD	GLU	2249	33.485	13.495	27.483	1.00	36.49
ATOM	5014	OE1	GLU	2249	34.108	14.083	28.399	1.00	36.07
ATOM	5015	OE2	GLU	2249	33.905	12.459	26.913	1.00	37.06
ATOM	5016	C	GLU	2249	28.540	14.009	28.423	1.00	31.23

ATOM	5017	O	GLU	2249	28.219	15.004	29.073	1.00	31.78
ATOM	5018	N	ARG	2250	27.926	12.832	28.555	1.00	29.85
ATOM	5019	CA	ARG	2250	26.816	12.640	29.501	1.00	29.42
ATOM	5020	CB	ARG	2250	25.643	11.906	28.809	1.00	28.75
ATOM	5021	CG	ARG	2250	25.106	12.572	27.524	1.00	26.64
ATOM	5022	CD	ARG	2250	24.761	14.041	27.732	1.00	25.25
ATOM	5023	NE	ARG	2250	23.792	14.248	28.808	1.00	26.29
ATOM	5024	CZ	ARG	2250	22.467	14.222	28.668	1.00	25.22
ATOM	5025	NH1	ARG	2250	21.912	14.004	27.490	1.00	25.69
ATOM	5026	NH2	ARG	2250	21.693	14.406	29.720	1.00	25.76
ATOM	5027	C	ARG	2250	27.253	11.855	30.747	1.00	29.20
ATOM	5028	O	ARG	2250	28.274	11.179	30.719	1.00	28.85
ATOM	5029	N	SER	2251	26.487	11.951	31.834	1.00	29.62
ATOM	5030	CA	SER	2251	26.813	11.237	33.073	1.00	30.87
ATOM	5031	CB	SER	2251	27.559	12.138	34.056	1.00	31.32
ATOM	5032	OG	SER	2251	28.741	12.660	33.481	1.00	33.17
ATOM	5033	C	SER	2251	25.563	10.744	33.758	1.00	31.52
ATOM	5034	O	SER	2251	24.962	11.466	34.545	1.00	32.06
ATOM	5035	N	PRO	2252	25.161	9.496	33.481	1.00	32.23
ATOM	5036	CD	PRO	2252	25.723	8.595	32.457	1.00	32.11
ATOM	5037	CA	PRO	2252	23.964	8.910	34.081	1.00	32.83
ATOM	5038	CB	PRO	2252	23.558	7.866	33.049	1.00	32.65
ATOM	5039	CG	PRO	2252	24.872	7.344	32.609	1.00	32.26
ATOM	5040	C	PRO	2252	24.220	8.301	35.455	1.00	33.52
ATOM	5041	O	PRO	2252	24.166	7.075	35.619	1.00	34.55
ATOM	5042	N	HIS	2253	24.495	9.158	36.437	1.00	33.82
ATOM	5043	CA	HIS	2253	24.750	8.730	37.804	1.00	33.87
ATOM	5044	CB	HIS	2253	26.262	8.764	38.057	1.00	36.50
ATOM	5045	CG	HIS	2253	27.014	7.657	37.377	1.00	40.62
ATOM	5046	CD2	HIS	2253	27.986	6.828	37.832	1.00	42.22
ATOM	5047	ND1	HIS	2253	26.798	7.300	36.061	1.00	42.32
ATOM	5048	CE1	HIS	2253	27.601	6.303	35.734	1.00	42.14
ATOM	5049	NE2	HIS	2253	28.334	5.997	36.791	1.00	42.84
ATOM	5050	C	HIS	2253	24.016	9.656	38.768	1.00	32.55
ATOM	5051	O	HIS	2253	23.611	10.750	38.385	1.00	32.05
ATOM	5052	N	ARG	2254	23.830	9.211	40.006	1.00	31.63
ATOM	5053	CA	ARG	2254	23.165	10.030	41.012	1.00	30.71
ATOM	5054	CB	ARG	2254	23.038	9.241	42.317	1.00	31.85
ATOM	5055	CG	ARG	2254	24.353	8.691	42.836	1.00	32.46
ATOM	5056	CD	ARG	2254	24.123	7.624	43.886	1.00	35.54
ATOM	5057	NE	ARG	2254	24.523	8.058	45.227	1.00	39.43
ATOM	5058	CZ	ARG	2254	25.693	7.778	45.806	1.00	39.98
ATOM	5059	NH1	ARG	2254	26.608	7.049	45.167	1.00	39.96
ATOM	5060	NH2	ARG	2254	25.951	8.235	47.027	1.00	39.85
ATOM	5061	C	ARG	2254	24.030	11.278	41.222	1.00	29.81
ATOM	5062	O	ARG	2254	25.209	11.300	40.840	1.00	28.68
ATOM	5063	N	PRO	2255	23.462	12.338	41.818	1.00	28.57
ATOM	5064	CD	PRO	2255	22.051	12.624	42.114	1.00	27.59
ATOM	5065	CA	PRO	2255	24.299	13.524	42.013	1.00	27.57
ATOM	5066	CB	PRO	2255	23.314	14.569	42.546	1.00	27.22
ATOM	5067	CG	PRO	2255	22.165	13.773	43.049	1.00	27.56
ATOM	5068	C	PRO	2255	25.508	13.265	42.920	1.00	27.48
ATOM	5069	O	PRO	2255	25.505	12.358	43.754	1.00	26.80
ATOM	5070	N	ILE	2256	26.553	14.056	42.712	1.00	27.43
ATOM	5071	CA	ILE	2256	27.795	13.944	43.460	1.00	26.43
ATOM	5072	CB	ILE	2256	28.990	13.768	42.499	1.00	25.95
ATOM	5073	CG2	ILE	2256	30.286	13.620	43.279	1.00	23.53
ATOM	5074	CG1	ILE	2256	28.764	12.549	41.613	1.00	25.30
ATOM	5075	CD1	ILE	2256	29.792	12.403	40.502	1.00	25.01
ATOM	5076	C	ILE	2256	28.012	15.229	44.240	1.00	26.92
ATOM	5077	O	ILE	2256	27.953	16.313	43.668	1.00	27.24
ATOM	5078	N	LEU	2257	28.266	15.103	45.538	1.00	26.99

ATOM	5079	CA	LEU	2257	28.502	16.255	46.386	1.00	27.39
ATOM	5080	CB	LEU	2257	27.762	16.070	47.711	1.00	27.19
ATOM	5081	CG	LEU	2257	26.294	15.594	47.689	1.00	28.23
ATOM	5082	CD1	LEU	2257	25.668	15.909	49.040	1.00	29.07
ATOM	5083	CD2	LEU	2257	25.479	16.270	46.610	1.00	27.48
ATOM	5084	C	LEU	2257	30.004	16.387	46.628	1.00	28.16
ATOM	5085	O	LEU	2257	30.675	15.389	46.867	1.00	28.15
ATOM	5086	N	GLN	2258	30.548	17.602	46.556	1.00	28.83
ATOM	5087	CA	GLN	2258	31.986	17.772	46.776	1.00	29.34
ATOM	5088	CB	GLN	2258	32.445	19.212	46.520	1.00	29.65
ATOM	5089	CG	GLN	2258	33.911	19.459	46.960	1.00	30.01
ATOM	5090	CD	GLN	2258	34.936	18.564	46.237	1.00	31.16
ATOM	5091	OE1	GLN	2258	34.603	17.488	45.704	1.00	30.77
ATOM	5092	NE2	GLN	2258	36.190	19.001	46.235	1.00	30.89
ATOM	5093	C	GLN	2258	32.402	17.376	48.185	1.00	29.48
ATOM	5094	O	GLN	2258	31.857	17.857	49.171	1.00	30.23
ATOM	5095	N	ALA	2259	33.384	16.494	48.269	1.00	29.13
ATOM	5096	CA	ALA	2259	33.872	16.046	49.553	1.00	29.42
ATOM	5097	CB	ALA	2259	35.121	15.214	49.368	1.00	30.08
ATOM	5098	C	ALA	2259	34.181	17.231	50.458	1.00	29.94
ATOM	5099	O	ALA	2259	34.668	18.259	50.004	1.00	30.39
ATOM	5100	N	GLY	2260	33.896	17.092	51.746	1.00	30.53
ATOM	5101	CA	GLY	2260	34.199	18.167	52.674	1.00	30.54
ATOM	5102	C	GLY	2260	33.118	19.197	52.938	1.00	31.12
ATOM	5103	O	GLY	2260	33.215	19.932	53.920	1.00	31.99
ATOM	5104	N	LEU	2261	32.095	19.265	52.091	1.00	30.98
ATOM	5105	CA	LEU	2261	31.033	20.243	52.270	1.00	30.63
ATOM	5106	CB	LEU	2261	31.031	21.208	51.078	1.00	30.72
ATOM	5107	CG	LEU	2261	32.365	21.933	50.824	1.00	31.66
ATOM	5108	CD1	LEU	2261	32.294	22.731	49.530	1.00	31.02
ATOM	5109	CD2	LEU	2261	32.683	22.850	51.995	1.00	31.07
ATOM	5110	C	LEU	2261	29.660	19.589	52.407	1.00	30.64
ATOM	5111	O	LEU	2261	29.338	18.665	51.664	1.00	30.81
ATOM	5112	N	PRO	2262	28.824	20.070	53.356	1.00	30.49
ATOM	5113	CD	PRO	2262	27.462	19.546	53.578	1.00	29.90
ATOM	5114	CA	PRO	2262	29.113	21.177	54.281	1.00	30.55
ATOM	5115	CB	PRO	2262	27.744	21.488	54.879	1.00	30.32
ATOM	5116	CG	PRO	2262	27.106	20.123	54.934	1.00	30.38
ATOM	5117	C	PRO	2262	30.124	20.744	55.334	1.00	30.64
ATOM	5118	O	PRO	2262	30.319	19.556	55.551	1.00	31.68
ATOM	5119	N	ALA	2263	30.764	21.702	55.987	1.00	30.86
ATOM	5120	CA	ALA	2263	31.758	21.382	57.006	1.00	31.01
ATOM	5121	CB	ALA	2263	33.052	22.118	56.716	1.00	31.24
ATOM	5122	C	ALA	2263	31.290	21.704	58.415	1.00	31.05
ATOM	5123	O	ALA	2263	30.459	22.584	58.624	1.00	30.68
ATOM	5124	N	ASN	2264	31.825	20.970	59.383	1.00	32.10
ATOM	5125	CA	ASN	2264	31.481	21.177	60.786	1.00	33.19
ATOM	5126	CB	ASN	2264	32.234	20.180	61.668	1.00	31.52
ATOM	5127	CG	ASN	2264	31.724	18.763	61.518	1.00	30.77
ATOM	5128	OD1	ASN	2264	30.576	18.546	61.137	1.00	31.16
ATOM	5129	ND2	ASN	2264	32.561	17.790	61.848	1.00	29.76
ATOM	5130	C	ASN	2264	31.856	22.598	61.192	1.00	34.67
ATOM	5131	O	ASN	2264	32.882	23.119	60.767	1.00	35.43
ATOM	5132	N	LYS	2265	31.032	23.226	62.018	1.00	35.97
ATOM	5133	CA	LYS	2265	31.315	24.585	62.452	1.00	37.56
ATOM	5134	CB	LYS	2265	30.439	25.588	61.686	1.00	38.71
ATOM	5135	CG	LYS	2265	30.497	25.500	60.173	1.00	39.82
ATOM	5136	CD	LYS	2265	31.641	26.331	59.598	1.00	41.58
ATOM	5137	CE	LYS	2265	31.681	26.237	58.074	1.00	41.23
ATOM	5138	NZ	LYS	2265	30.368	26.625	57.474	1.00	42.04
ATOM	5139	C	LYS	2265	31.054	24.764	63.944	1.00	38.13
ATOM	5140	O	LYS	2265	30.080	24.250	64.489	1.00	37.80

ATOM	5141	N	THR	2266	31.945	25.493	64.601	1.00	39.03
ATOM	5142	CA	THR	2266	31.787	25.793	66.013	1.00	39.66
ATOM	5143	CB	THR	2266	32.954	25.268	66.849	1.00	39.06
ATOM	5144	OG1	THR	2266	33.083	23.861	66.635	1.00	39.27
ATOM	5145	CG2	THR	2266	32.699	25.517	68.335	1.00	38.84
ATOM	5146	C	THR	2266	31.745	27.313	66.073	1.00	39.78
ATOM	5147	O	THR	2266	32.698	27.983	65.695	1.00	39.92
ATOM	5148	N	VAL	2267	30.626	27.858	66.527	1.00	39.68
ATOM	5149	CA	VAL	2267	30.491	29.298	66.586	1.00	40.35
ATOM	5150	CB	VAL	2267	29.612	29.806	65.434	1.00	39.62
ATOM	5151	CG1	VAL	2267	30.312	29.572	64.109	1.00	39.00
ATOM	5152	CG2	VAL	2267	28.282	29.093	65.458	1.00	38.47
ATOM	5153	C	VAL	2267	29.913	29.801	67.896	1.00	41.43
ATOM	5154	O	VAL	2267	29.282	29.060	68.651	1.00	40.66
ATOM	5155	N	ALA	2268	30.136	31.083	68.153	1.00	42.97
ATOM	5156	CA	ALA	2268	29.652	31.712	69.366	1.00	44.16
ATOM	5157	CB	ALA	2268	30.455	32.983	69.646	1.00	44.30
ATOM	5158	C	ALA	2268	28.175	32.038	69.214	1.00	44.84
ATOM	5159	O	ALA	2268	27.695	32.318	68.115	1.00	44.50
ATOM	5160	N	LEU	2269	27.453	31.994	70.325	1.00	45.61
ATOM	5161	CA	LEU	2269	26.028	32.287	70.307	1.00	46.16
ATOM	5162	CB	LEU	2269	25.493	32.339	71.738	1.00	45.87
ATOM	5163	CG	LEU	2269	24.209	31.561	72.033	1.00	46.18
ATOM	5164	CD1	LEU	2269	24.035	31.419	73.540	1.00	46.48
ATOM	5165	CD2	LEU	2269	23.019	32.268	71.407	1.00	46.06
ATOM	5166	C	LEU	2269	25.808	33.629	69.618	1.00	46.93
ATOM	5167	O	LEU	2269	26.605	34.557	69.780	1.00	47.56
ATOM	5168	N	GLY	2270	24.735	33.726	68.841	1.00	47.09
ATOM	5169	CA	GLY	2270	24.434	34.969	68.155	1.00	47.38
ATOM	5170	C	GLY	2270	25.197	35.209	66.864	1.00	47.78
ATOM	5171	O	GLY	2270	24.988	36.229	66.210	1.00	47.72
ATOM	5172	N	SER	2271	26.080	34.285	66.492	1.00	47.62
ATOM	5173	CA	SER	2271	26.853	34.429	65.261	1.00	47.44
ATOM	5174	CB	SER	2271	28.051	33.476	65.256	1.00	47.64
ATOM	5175	OG	SER	2271	28.835	33.613	66.426	1.00	49.57
ATOM	5176	C	SER	2271	25.996	34.116	64.039	1.00	47.34
ATOM	5177	O	SER	2271	24.871	33.616	64.151	1.00	47.41
ATOM	5178	N	ASN	2272	26.535	34.429	62.869	1.00	46.71
ATOM	5179	CA	ASN	2272	25.858	34.129	61.622	1.00	46.45
ATOM	5180	CB	ASN	2272	25.808	35.348	60.705	1.00	46.03
ATOM	5181	CG	ASN	2272	24.886	36.423	61.222	1.00	46.41
ATOM	5182	OD1	ASN	2272	23.742	36.154	61.590	1.00	45.55
ATOM	5183	ND2	ASN	2272	25.376	37.653	61.247	1.00	46.88
ATOM	5184	C	ASN	2272	26.710	33.040	60.995	1.00	46.48
ATOM	5185	O	ASN	2272	27.938	33.113	61.026	1.00	46.62
ATOM	5186	N	VAL	2273	26.072	32.021	60.437	1.00	45.88
ATOM	5187	CA	VAL	2273	26.820	30.929	59.838	1.00	45.34
ATOM	5188	CB	VAL	2273	26.857	29.697	60.792	1.00	46.10
ATOM	5189	CG1	VAL	2273	25.496	29.510	61.449	1.00	46.20
ATOM	5190	CG2	VAL	2273	27.228	28.429	60.016	1.00	46.19
ATOM	5191	C	VAL	2273	26.223	30.500	58.520	1.00	44.35
ATOM	5192	O	VAL	2273	25.009	30.559	58.335	1.00	44.73
ATOM	5193	N	GLU	2274	27.079	30.071	57.602	1.00	43.27
ATOM	5194	CA	GLU	2274	26.607	29.601	56.314	1.00	42.55
ATOM	5195	CB	GLU	2274	26.870	30.637	55.206	1.00	43.72
ATOM	5196	CG	GLU	2274	28.331	30.930	54.860	1.00	44.53
ATOM	5197	CD	GLU	2274	28.474	32.021	53.777	1.00	45.94
ATOM	5198	OE1	GLU	2274	27.924	33.137	53.960	1.00	45.53
ATOM	5199	OE2	GLU	2274	29.138	31.767	52.744	1.00	45.60
ATOM	5200	C	GLU	2274	27.227	28.266	55.941	1.00	41.35
ATOM	5201	O	GLU	2274	28.446	28.113	55.910	1.00	40.94
ATOM	5202	N	PHE	2275	26.366	27.290	55.687	1.00	39.80

ATOM	5203	CA	PHE	2275	26.809	25.970	55.289	1.00	38.16
ATOM	5204	CB	PHE	2275	25.857	24.908	55.825	1.00	36.24
ATOM	5205	CG	PHE	2275	26.079	24.569	57.269	1.00	34.62
ATOM	5206	CD1	PHE	2275	27.289	24.037	57.688	1.00	33.49
ATOM	5207	CD2	PHE	2275	25.065	24.734	58.201	1.00	34.11
ATOM	5208	CE1	PHE	2275	27.487	23.669	59.004	1.00	33.95
ATOM	5209	CE2	PHE	2275	25.256	24.366	59.527	1.00	33.81
ATOM	5210	CZ	PHE	2275	26.471	23.829	59.930	1.00	33.81
ATOM	5211	C	PHE	2275	26.800	25.946	53.781	1.00	38.28
ATOM	5212	O	PHE	2275	25.927	26.547	53.153	1.00	38.22
ATOM	5213	N	MSE	2276	27.775	25.266	53.195	1.00	38.84
ATOM	5214	CA	MSE	2276	27.837	25.179	51.750	1.00	39.52
ATOM	5215	CB	MSE	2276	29.113	25.825	51.236	1.00	41.46
ATOM	5216	CG	MSE	2276	28.914	27.271	50.865	1.00	45.12
ATOM	5217	SE	MSE	2276	30.481	28.078	50.709	1.00	50.12
ATOM	5218	CE	MSE	2276	31.138	27.258	49.210	1.00	48.16
ATOM	5219	C	MSE	2276	27.726	23.759	51.237	1.00	38.31
ATOM	5220	O	MSE	2276	27.938	22.803	51.972	1.00	37.11
ATOM	5221	N	CYS	2277	27.378	23.641	49.964	1.00	37.59
ATOM	5222	CA	CYS	2277	27.235	22.352	49.339	1.00	37.00
ATOM	5223	CB	CYS	2277	25.879	21.776	49.699	1.00	37.25
ATOM	5224	SG	CYS	2277	25.782	20.074	49.257	1.00	40.54
ATOM	5225	C	CYS	2277	27.393	22.446	47.819	1.00	36.33
ATOM	5226	O	CYS	2277	26.625	23.121	47.140	1.00	37.14
ATOM	5227	N	LYS	2278	28.398	21.758	47.290	1.00	35.33
ATOM	5228	CA	LYS	2278	28.672	21.768	45.859	1.00	33.89
ATOM	5229	CB	LYS	2278	30.184	21.895	45.606	1.00	34.33
ATOM	5230	CG	LYS	2278	30.777	23.219	46.041	1.00	34.51
ATOM	5231	CD	LYS	2278	30.057	24.356	45.368	1.00	36.11
ATOM	5232	CE	LYS	2278	30.501	25.693	45.935	1.00	38.57
ATOM	5233	NZ	LYS	2278	29.679	26.822	45.375	1.00	39.74
ATOM	5234	C	LYS	2278	28.148	20.496	45.233	1.00	32.29
ATOM	5235	O	LYS	2278	28.611	19.398	45.543	1.00	32.62
ATOM	5236	N	VAL	2279	27.189	20.654	44.325	1.00	30.07
ATOM	5237	CA	VAL	2279	26.566	19.523	43.691	1.00	28.30
ATOM	5238	CB	VAL	2279	25.026	19.633	43.917	1.00	27.83
ATOM	5239	CG1	VAL	2279	24.255	18.558	43.136	1.00	25.87
ATOM	5240	CG2	VAL	2279	24.739	19.539	45.406	1.00	25.86
ATOM	5241	C	VAL	2279	26.875	19.379	42.214	1.00	27.95
ATOM	5242	O	VAL	2279	26.966	20.364	41.488	1.00	28.45
ATOM	5243	N	TYR	2280	27.070	18.141	41.780	1.00	26.99
ATOM	5244	CA	TYR	2280	27.303	17.878	40.379	1.00	27.05
ATOM	5245	CB	TYR	2280	28.702	17.347	40.124	1.00	27.36
ATOM	5246	CG	TYR	2280	28.831	16.935	38.692	1.00	28.28
ATOM	5247	CD1	TYR	2280	28.909	17.887	37.677	1.00	28.68
ATOM	5248	CE1	TYR	2280	28.846	17.512	36.344	1.00	29.45
ATOM	5249	CD2	TYR	2280	28.709	15.597	38.331	1.00	28.79
ATOM	5250	CE2	TYR	2280	28.642	15.213	37.010	1.00	29.34
ATOM	5251	CZ	TYR	2280	28.705	16.165	36.021	1.00	30.30
ATOM	5252	OH	TYR	2280	28.579	15.758	34.711	1.00	32.24
ATOM	5253	C	TYR	2280	26.268	16.849	39.919	1.00	27.25
ATOM	5254	O	TYR	2280	26.029	15.843	40.592	1.00	27.12
ATOM	5255	N	SER	2281	25.639	17.114	38.778	1.00	26.82
ATOM	5256	CA	SER	2281	24.625	16.219	38.261	1.00	26.86
ATOM	5257	CB	SER	2281	23.366	16.348	39.115	1.00	26.81
ATOM	5258	OG	SER	2281	22.408	15.362	38.777	1.00	27.31
ATOM	5259	C	SER	2281	24.306	16.582	36.821	1.00	27.08
ATOM	5260	O	SER	2281	24.061	17.747	36.527	1.00	27.38
ATOM	5261	N	ASP	2282	24.329	15.598	35.921	1.00	27.14
ATOM	5262	CA	ASP	2282	24.006	15.853	34.521	1.00	27.01
ATOM	5263	CB	ASP	2282	24.371	14.643	33.659	1.00	26.51
ATOM	5264	CG	ASP	2282	24.096	14.861	32.184	1.00	26.84

ATOM	5265	OD1	ASP	2282	24.658	14.087	31.374	1.00	26.84
ATOM	5266	OD2	ASP	2282	23.326	15.780	31.829	1.00	26.00
ATOM	5267	C	ASP	2282	22.497	16.131	34.505	1.00	27.80
ATOM	5268	O	ASP	2282	22.055	17.230	34.149	1.00	26.80
ATOM	5269	N	PRO	2283	21.680	15.135	34.885	1.00	28.45
ATOM	5270	CD	PRO	2283	21.932	13.737	35.289	1.00	27.92
ATOM	5271	CA	PRO	2283	20.244	15.453	34.875	1.00	28.70
ATOM	5272	CB	PRO	2283	19.578	14.132	35.294	1.00	28.65
ATOM	5273	CG	PRO	2283	20.618	13.067	34.966	1.00	29.28
ATOM	5274	C	PRO	2283	20.058	16.530	35.956	1.00	28.97
ATOM	5275	O	PRO	2283	20.792	16.561	36.950	1.00	29.10
ATOM	5276	N	GLN	2284	19.083	17.406	35.766	1.00	28.73
ATOM	5277	CA	GLN	2284	18.802	18.470	36.719	1.00	28.58
ATOM	5278	CB	GLN	2284	17.558	19.216	36.235	1.00	27.98
ATOM	5279	CG	GLN	2284	17.659	20.711	36.280	1.00	28.35
ATOM	5280	CD	GLN	2284	18.956	21.225	35.701	1.00	27.84
ATOM	5281	OE1	GLN	2284	19.246	21.049	34.517	1.00	27.07
ATOM	5282	NE2	GLN	2284	19.748	21.867	36.543	1.00	28.56
ATOM	5283	C	GLN	2284	18.577	17.875	38.125	1.00	28.66
ATOM	5284	O	GLN	2284	17.706	17.022	38.311	1.00	29.74
ATOM	5285	N	PRO	2285	19.367	18.300	39.125	1.00	27.63
ATOM	5286	CD	PRO	2285	20.679	18.973	39.023	1.00	26.94
ATOM	5287	CA	PRO	2285	19.181	17.755	40.471	1.00	27.19
ATOM	5288	CB	PRO	2285	20.601	17.724	41.028	1.00	26.31
ATOM	5289	CG	PRO	2285	21.168	18.985	40.481	1.00	25.33
ATOM	5290	C	PRO	2285	18.267	18.594	41.346	1.00	27.28
ATOM	5291	O	PRO	2285	18.134	19.800	41.149	1.00	26.60
ATOM	5292	N	HIS	2286	17.640	17.942	42.318	1.00	27.47
ATOM	5293	CA	HIS	2286	16.781	18.650	43.247	1.00	27.94
ATOM	5294	CB	HIS	2286	15.400	18.001	43.363	1.00	26.81
ATOM	5295	CG	HIS	2286	14.482	18.746	44.277	1.00	26.92
ATOM	5296	CD2	HIS	2286	13.988	20.006	44.206	1.00	27.50
ATOM	5297	ND1	HIS	2286	14.074	18.246	45.494	1.00	26.29
ATOM	5298	CE1	HIS	2286	13.375	19.165	46.136	1.00	26.25
ATOM	5299	NE2	HIS	2286	13.307	20.243	45.376	1.00	26.93
ATOM	5300	C	HIS	2286	17.458	18.645	44.604	1.00	28.13
ATOM	5301	O	HIS	2286	17.597	17.592	45.221	1.00	28.27
ATOM	5302	N	ILE	2287	17.891	19.820	45.055	1.00	28.66
ATOM	5303	CA	ILE	2287	18.570	19.953	46.337	1.00	28.85
ATOM	5304	CB	ILE	2287	19.717	20.973	46.257	1.00	28.70
ATOM	5305	CG2	ILE	2287	20.367	21.162	47.637	1.00	27.05
ATOM	5306	CG1	ILE	2287	20.746	20.496	45.227	1.00	27.40
ATOM	5307	CD1	ILE	2287	21.948	21.396	45.118	1.00	27.72
ATOM	5308	C	ILE	2287	17.618	20.347	47.454	1.00	29.85
ATOM	5309	O	ILE	2287	16.579	20.957	47.229	1.00	30.09
ATOM	5310	N	GLN	2288	17.995	19.999	48.673	1.00	30.86
ATOM	5311	CA	GLN	2288	17.160	20.269	49.822	1.00	31.69
ATOM	5312	CB	GLN	2288	16.149	19.130	49.908	1.00	32.71
ATOM	5313	CG	GLN	2288	15.134	19.188	51.006	1.00	34.82
ATOM	5314	CD	GLN	2288	14.112	18.062	50.873	1.00	35.54
ATOM	5315	OE1	GLN	2288	13.117	18.021	51.597	1.00	36.68
ATOM	5316	NE2	GLN	2288	14.359	17.141	49.939	1.00	35.12
ATOM	5317	C	GLN	2288	18.053	20.312	51.055	1.00	31.15
ATOM	5318	O	GLN	2288	18.982	19.521	51.160	1.00	31.72
ATOM	5319	N	TRP	2289	17.796	21.259	51.956	1.00	30.36
ATOM	5320	CA	TRP	2289	18.551	21.375	53.208	1.00	29.27
ATOM	5321	CB	TRP	2289	19.028	22.806	53.439	1.00	26.27
ATOM	5322	CG	TRP	2289	20.226	23.193	52.650	1.00	24.71
ATOM	5323	CD2	TRP	2289	21.598	22.964	53.004	1.00	23.16
ATOM	5324	CE2	TRP	2289	22.395	23.536	51.979	1.00	23.19
ATOM	5325	CE3	TRP	2289	22.231	22.334	54.087	1.00	22.47
ATOM	5326	CD1	TRP	2289	20.244	23.862	51.460	1.00	24.38

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ATOM   5327  NE1 TRP  2289      21.544  24.074  51.052  1.00 23.34
ATOM   5328  CZ2 TRP  2289      23.801  23.502  52.004  1.00 22.31
ATOM   5329  CZ3 TRP  2289      23.636  22.294  54.115  1.00 23.80
ATOM   5330  CH2 TRP  2289      24.402  22.880  53.073  1.00 23.16
ATOM   5331  C   TRP  2289      17.678  20.950  54.395  1.00 30.34
ATOM   5332  O   TRP  2289      16.557  21.441  54.568  1.00 29.75
ATOM   5333  N   LEU  2290      18.198  20.041  55.211  1.00 31.29
ATOM   5334  CA  LEU  2290      17.470  19.530  56.371  1.00 32.32
ATOM   5335  CB  LEU  2290      17.219  18.027  56.209  1.00 32.06
ATOM   5336  CG  LEU  2290      16.089  17.485  55.326  1.00 31.82
ATOM   5337  CD1 LEU  2290      15.577  18.558  54.388  1.00 33.18
ATOM   5338  CD2 LEU  2290      16.594  16.284  54.555  1.00 30.25
ATOM   5339  C   LEU  2290      18.215  19.740  57.671  1.00 32.98
ATOM   5340  O   LEU  2290      19.440  19.793  57.692  1.00 33.80
ATOM   5341  N   LYS  2291      17.460  19.860  58.754  1.00 33.86
ATOM   5342  CA  LYS  2291      18.025  20.007  60.090  1.00 34.84
ATOM   5343  CB  LYS  2291      17.568  21.313  60.747  1.00 34.69
ATOM   5344  CG  LYS  2291      17.641  21.356  62.281  1.00 33.43
ATOM   5345  CD  LYS  2291      19.062  21.408  62.814  1.00 33.94
ATOM   5346  CE  LYS  2291      19.122  22.101  64.189  1.00 34.55
ATOM   5347  NZ  LYS  2291      18.273  21.470  65.260  1.00 34.70
ATOM   5348  C   LYS  2291      17.482  18.833  60.878  1.00 35.62
ATOM   5349  O   LYS  2291      16.274  18.614  60.911  1.00 35.11
ATOM   5350  N   HIS  2292      18.373  18.061  61.486  1.00 37.06
ATOM   5351  CA  HIS  2292      17.963  16.915  62.286  1.00 38.15
ATOM   5352  CB  HIS  2292      19.156  16.004  62.508  1.00 37.99
ATOM   5353  CG  HIS  2292      19.599  15.310  61.264  1.00 39.30
ATOM   5354  CD2 HIS  2292      20.374  15.735  60.236  1.00 40.38
ATOM   5355  ND1 HIS  2292      19.134  14.065  60.905  1.00 39.35
ATOM   5356  CE1 HIS  2292      19.598  13.755  59.708  1.00 39.86
ATOM   5357  NE2 HIS  2292      20.352  14.752  59.279  1.00 39.95
ATOM   5358  C   HIS  2292      17.422  17.414  63.610  1.00 39.16
ATOM   5359  O   HIS  2292      18.103  18.140  64.331  1.00 39.28
ATOM   5360  N   ILE  2293      16.191  17.030  63.921  1.00 39.79
ATOM   5361  CA  ILE  2293      15.558  17.473  65.154  1.00 40.75
ATOM   5362  CB  ILE  2293      14.362  18.390  64.851  1.00 39.23
ATOM   5363  CG2 ILE  2293      14.808  19.535  63.969  1.00 39.31
ATOM   5364  CG1 ILE  2293      13.258  17.598  64.153  1.00 39.02
ATOM   5365  CD1 ILE  2293      12.020  18.404  63.827  1.00 36.97
ATOM   5366  C   ILE  2293      15.060  16.344  66.041  1.00 42.01
ATOM   5367  O   ILE  2293      15.025  15.171  65.649  1.00 42.38
ATOM   5368  N   GLU  2294      14.677  16.722  67.253  1.00 43.78
ATOM   5369  CA  GLU  2294      14.137  15.780  68.219  1.00 45.28
ATOM   5370  CB  GLU  2294      14.842  15.919  69.565  1.00 45.66
ATOM   5371  CG  GLU  2294      16.138  15.152  69.686  1.00 48.34
ATOM   5372  CD  GLU  2294      16.717  15.220  71.090  1.00 50.36
ATOM   5373  OE1 GLU  2294      15.939  15.075  72.059  1.00 50.33
ATOM   5374  OE2 GLU  2294      17.947  15.407  71.230  1.00 51.59
ATOM   5375  C   GLU  2294      12.664  16.089  68.407  1.00 45.75
ATOM   5376  O   GLU  2294      12.295  17.241  68.611  1.00 45.16
ATOM   5377  N   VAL  2295      11.818  15.076  68.299  1.00 46.82
ATOM   5378  CA  VAL  2295      10.401  15.297  68.531  1.00 48.64
ATOM   5379  CB  VAL  2295       9.523  14.722  67.429  1.00 48.60
ATOM   5380  CG1 VAL  2295       8.068  14.895  67.809  1.00 48.18
ATOM   5381  CG2 VAL  2295       9.797  15.456  66.123  1.00 49.01
ATOM   5382  C   VAL  2295      10.155  14.569  69.829  1.00 50.22
ATOM   5383  O   VAL  2295      10.173  13.333  69.883  1.00 50.70
ATOM   5384  N   ASN  2296       9.950  15.364  70.875  1.00 51.38
ATOM   5385  CA  ASN  2296       9.771  14.867  72.225  1.00 52.31
ATOM   5386  CB  ASN  2296       8.815  13.678  72.253  1.00 52.69
ATOM   5387  CG  ASN  2296       7.385  14.081  71.915  1.00 54.24
ATOM   5388  OD1 ASN  2296       6.840  15.032  72.497  1.00 54.33
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ATOM	5389	ND2	ASN	2296	6.767	13.358	70.980	1.00	53.98
ATOM	5390	C	ASN	2296	11.162	14.466	72.695	1.00	52.86
ATOM	5391	O	ASN	2296	12.020	15.328	72.918	1.00	53.10
ATOM	5392	N	GLY	2297	11.410	13.172	72.814	1.00	53.10
ATOM	5393	CA	GLY	2297	12.723	12.764	73.262	1.00	53.81
ATOM	5394	C	GLY	2297	13.551	12.059	72.213	1.00	54.12
ATOM	5395	O	GLY	2297	14.770	11.978	72.337	1.00	54.71
ATOM	5396	N	SER	2298	12.902	11.558	71.172	1.00	54.20
ATOM	5397	CA	SER	2298	13.616	10.825	70.144	1.00	54.33
ATOM	5398	CB	SER	2298	12.803	9.590	69.761	1.00	55.05
ATOM	5399	OG	SER	2298	11.420	9.853	69.911	1.00	55.50
ATOM	5400	C	SER	2298	14.022	11.588	68.893	1.00	54.45
ATOM	5401	O	SER	2298	13.343	12.514	68.437	1.00	54.45
ATOM	5402	N	LYS	2299	15.157	11.167	68.354	1.00	54.68
ATOM	5403	CA	LYS	2299	15.724	11.742	67.151	1.00	55.54
ATOM	5404	CB	LYS	2299	17.246	11.739	67.245	1.00	56.00
ATOM	5405	CG	LYS	2299	17.778	12.472	68.444	1.00	57.41
ATOM	5406	CD	LYS	2299	19.267	12.715	68.318	1.00	58.81
ATOM	5407	CE	LYS	2299	19.745	13.695	69.385	1.00	59.30
ATOM	5408	NZ	LYS	2299	21.150	14.124	69.125	1.00	59.81
ATOM	5409	C	LYS	2299	15.300	10.898	65.961	1.00	55.78
ATOM	5410	O	LYS	2299	15.299	11.364	64.822	1.00	55.56
ATOM	5411	N	ILE	2300	14.946	9.649	66.239	1.00	56.11
ATOM	5412	CA	ILE	2300	14.535	8.720	65.197	1.00	56.72
ATOM	5413	CB	ILE	2300	15.381	7.423	65.244	1.00	56.91
ATOM	5414	CG2	ILE	2300	15.100	6.577	64.014	1.00	57.24
ATOM	5415	CG1	ILE	2300	16.878	7.769	65.310	1.00	57.13
ATOM	5416	CD1	ILE	2300	17.375	8.658	64.181	1.00	56.77
ATOM	5417	C	ILE	2300	13.060	8.361	65.344	1.00	56.82
ATOM	5418	O	ILE	2300	12.669	7.656	66.274	1.00	56.94
ATOM	5419	N	GLY	2301	12.252	8.853	64.410	1.00	57.06
ATOM	5420	CA	GLY	2301	10.824	8.604	64.438	1.00	57.25
ATOM	5421	C	GLY	2301	10.414	7.142	64.370	1.00	57.57
ATOM	5422	O	GLY	2301	11.260	6.249	64.249	1.00	57.71
ATOM	5423	N	PRO	2302	9.098	6.875	64.430	1.00	57.35
ATOM	5424	CD	PRO	2302	8.060	7.924	64.382	1.00	57.34
ATOM	5425	CA	PRO	2302	8.485	5.540	64.386	1.00	57.08
ATOM	5426	CB	PRO	2302	6.993	5.854	64.216	1.00	57.20
ATOM	5427	CG	PRO	2302	6.842	7.187	64.880	1.00	57.20
ATOM	5428	C	PRO	2302	9.013	4.685	63.230	1.00	56.45
ATOM	5429	O	PRO	2302	9.571	3.597	63.428	1.00	56.39
ATOM	5430	N	ASP	2303	8.804	5.201	62.024	1.00	55.13
ATOM	5431	CA	ASP	2303	9.219	4.560	60.791	1.00	53.91
ATOM	5432	CB	ASP	2303	8.725	5.408	59.626	1.00	53.40
ATOM	5433	CG	ASP	2303	9.096	6.874	59.787	1.00	53.74
ATOM	5434	OD1	ASP	2303	8.637	7.701	58.968	1.00	53.92
ATOM	5435	OD2	ASP	2303	9.853	7.199	60.732	1.00	52.73
ATOM	5436	C	ASP	2303	10.739	4.391	60.716	1.00	53.37
ATOM	5437	O	ASP	2303	11.292	4.138	59.646	1.00	53.72
ATOM	5438	N	ASN	2304	11.410	4.528	61.853	1.00	52.21
ATOM	5439	CA	ASN	2304	12.861	4.404	61.916	1.00	51.05
ATOM	5440	CB	ASN	2304	13.303	2.998	61.482	1.00	51.38
ATOM	5441	CG	ASN	2304	14.780	2.721	61.781	1.00	51.23
ATOM	5442	OD1	ASN	2304	15.253	2.959	62.895	1.00	50.48
ATOM	5443	ND2	ASN	2304	15.507	2.204	60.788	1.00	50.71
ATOM	5444	C	ASN	2304	13.559	5.466	61.061	1.00	50.11
ATOM	5445	O	ASN	2304	14.775	5.408	60.851	1.00	50.01
ATOM	5446	N	LEU	2305	12.784	6.423	60.553	1.00	48.80
ATOM	5447	CA	LEU	2305	13.350	7.519	59.771	1.00	46.74
ATOM	5448	CB	LEU	2305	12.361	8.052	58.731	1.00	47.05
ATOM	5449	CG	LEU	2305	12.163	7.301	57.409	1.00	47.57
ATOM	5450	CD1	LEU	2305	13.521	6.778	56.923	1.00	46.70

ATOM	5451	CD2	LEU	2305	11.183	6.163	57.596	1.00	46.69
ATOM	5452	C	LEU	2305	13.643	8.619	60.774	1.00	45.44
ATOM	5453	O	LEU	2305	12.875	8.820	61.725	1.00	45.51
ATOM	5454	N	PRO	2306	14.760	9.339	60.594	1.00	43.52
ATOM	5455	CD	PRO	2306	15.829	9.134	59.602	1.00	42.73
ATOM	5456	CA	PRO	2306	15.103	10.421	61.525	1.00	42.28
ATOM	5457	CB	PRO	2306	16.563	10.701	61.199	1.00	42.21
ATOM	5458	CG	PRO	2306	16.624	10.414	59.719	1.00	42.70
ATOM	5459	C	PRO	2306	14.225	11.657	61.346	1.00	41.09
ATOM	5460	O	PRO	2306	13.897	12.032	60.228	1.00	40.46
ATOM	5461	N	TYR	2307	13.838	12.269	62.458	1.00	40.69
ATOM	5462	CA	TYR	2307	13.026	13.480	62.435	1.00	40.99
ATOM	5463	CB	TYR	2307	12.593	13.864	63.843	1.00	41.29
ATOM	5464	CG	TYR	2307	11.442	13.060	64.362	1.00	42.61
ATOM	5465	CD1	TYR	2307	11.535	12.378	65.578	1.00	43.37
ATOM	5466	CE1	TYR	2307	10.464	11.659	66.077	1.00	44.14
ATOM	5467	CD2	TYR	2307	10.243	12.999	63.655	1.00	43.08
ATOM	5468	CE2	TYR	2307	9.167	12.287	64.140	1.00	43.77
ATOM	5469	CZ	TYR	2307	9.280	11.615	65.351	1.00	44.75
ATOM	5470	OH	TYR	2307	8.212	10.880	65.826	1.00	45.77
ATOM	5471	C	TYR	2307	13.829	14.629	61.859	1.00	40.84
ATOM	5472	O	TYR	2307	14.848	15.028	62.425	1.00	41.19
ATOM	5473	N	VAL	2308	13.357	15.174	60.746	1.00	41.07
ATOM	5474	CA	VAL	2308	14.041	16.277	60.096	1.00	40.96
ATOM	5475	CB	VAL	2308	14.704	15.839	58.771	1.00	40.38
ATOM	5476	CG1	VAL	2308	15.678	14.720	59.037	1.00	40.47
ATOM	5477	CG2	VAL	2308	13.651	15.408	57.768	1.00	39.61
ATOM	5478	C	VAL	2308	13.118	17.446	59.797	1.00	40.88
ATOM	5479	O	VAL	2308	11.903	17.296	59.739	1.00	40.63
ATOM	5480	N	GLN	2309	13.717	18.618	59.619	1.00	40.52
ATOM	5481	CA	GLN	2309	12.971	19.825	59.299	1.00	39.92
ATOM	5482	CB	GLN	2309	13.166	20.899	60.365	1.00	40.28
ATOM	5483	CG	GLN	2309	12.279	22.122	60.128	1.00	41.08
ATOM	5484	CD	GLN	2309	12.658	23.323	60.980	1.00	41.87
ATOM	5485	OE1	GLN	2309	13.201	23.182	62.075	1.00	42.00
ATOM	5486	NE2	GLN	2309	12.355	24.518	60.481	1.00	42.72
ATOM	5487	C	GLN	2309	13.499	20.364	57.979	1.00	39.39
ATOM	5488	O	GLN	2309	14.695	20.628	57.861	1.00	39.16
ATOM	5489	N	ILE	2310	12.623	20.514	56.987	1.00	38.15
ATOM	5490	CA	ILE	2310	13.047	21.043	55.697	1.00	37.31
ATOM	5491	CB	ILE	2310	11.984	20.881	54.610	1.00	36.91
ATOM	5492	CG2	ILE	2310	12.620	21.102	53.256	1.00	36.40
ATOM	5493	CG1	ILE	2310	11.373	19.484	54.660	1.00	37.26
ATOM	5494	CD1	ILE	2310	12.337	18.379	54.373	1.00	37.59
ATOM	5495	C	ILE	2310	13.290	22.530	55.876	1.00	36.95
ATOM	5496	O	ILE	2310	12.376	23.286	56.203	1.00	37.05
ATOM	5497	N	LEU	2311	14.524	22.956	55.650	1.00	36.63
ATOM	5498	CA	LEU	2311	14.875	24.358	55.825	1.00	35.47
ATOM	5499	CB	LEU	2311	16.253	24.493	56.473	1.00	33.99
ATOM	5500	CG	LEU	2311	16.503	23.808	57.814	1.00	33.23
ATOM	5501	CD1	LEU	2311	17.915	24.103	58.300	1.00	32.38
ATOM	5502	CD2	LEU	2311	15.482	24.302	58.810	1.00	33.95
ATOM	5503	C	LEU	2311	14.903	25.108	54.518	1.00	35.24
ATOM	5504	O	LEU	2311	14.749	26.323	54.494	1.00	35.26
ATOM	5505	N	LYS	2312	15.097	24.386	53.425	1.00	35.28
ATOM	5506	CA	LYS	2312	15.194	25.029	52.126	1.00	34.87
ATOM	5507	CB	LYS	2312	16.589	25.629	52.011	1.00	34.49
ATOM	5508	CG	LYS	2312	16.748	26.758	51.048	1.00	33.76
ATOM	5509	CD	LYS	2312	18.099	27.376	51.281	1.00	34.11
ATOM	5510	CE	LYS	2312	18.337	28.535	50.361	1.00	34.17
ATOM	5511	NZ	LYS	2312	19.651	29.133	50.670	1.00	34.82
ATOM	5512	C	LYS	2312	14.976	23.980	51.047	1.00	34.95

ATOM	5513	O	LYS	2312	15.557	22.899	51.106	1.00	35.05
ATOM	5514	N	THR	2313	14.132	24.291	50.073	1.00	35.00
ATOM	5515	CA	THR	2313	13.863	23.355	48.997	1.00	35.62
ATOM	5516	CB	THR	2313	12.530	22.648	49.193	1.00	35.29
ATOM	5517	OG1	THR	2313	12.677	21.684	50.235	1.00	36.74
ATOM	5518	CG2	THR	2313	12.102	21.935	47.916	1.00	35.40
ATOM	5519	C	THR	2313	13.868	24.002	47.627	1.00	36.00
ATOM	5520	O	THR	2313	13.198	25.009	47.394	1.00	36.81
ATOM	5521	N	ALA	2314	14.623	23.404	46.714	1.00	35.26
ATOM	5522	CA	ALA	2314	14.716	23.921	45.367	1.00	34.51
ATOM	5523	CB	ALA	2314	15.775	23.155	44.588	1.00	34.24
ATOM	5524	C	ALA	2314	13.368	23.829	44.665	1.00	33.90
ATOM	5525	O	ALA	2314	12.576	22.932	44.934	1.00	33.53
ATOM	5526	N	GLY	2315	13.124	24.774	43.764	1.00	33.85
ATOM	5527	CA	GLY	2315	11.889	24.814	43.013	1.00	34.12
ATOM	5528	C	GLY	2315	11.818	26.146	42.307	1.00	34.83
ATOM	5529	O	GLY	2315	12.781	26.913	42.328	1.00	34.57
ATOM	5530	N	VAL	2316	10.684	26.444	41.686	1.00	36.05
ATOM	5531	CA	VAL	2316	10.551	27.714	40.979	1.00	37.03
ATOM	5532	CB	VAL	2316	9.225	27.791	40.214	1.00	37.90
ATOM	5533	CG1	VAL	2316	9.090	29.162	39.554	1.00	39.39
ATOM	5534	CG2	VAL	2316	9.186	26.712	39.145	1.00	38.31
ATOM	5535	C	VAL	2316	10.662	28.934	41.895	1.00	37.04
ATOM	5536	O	VAL	2316	11.053	30.007	41.451	1.00	37.51
ATOM	5537	N	ASN	2317	10.340	28.766	43.172	1.00	37.09
ATOM	5538	CA	ASN	2317	10.406	29.864	44.136	1.00	37.40
ATOM	5539	CB	ASN	2317	9.372	29.645	45.246	1.00	37.28
ATOM	5540	CG	ASN	2317	7.931	29.766	44.750	1.00	37.21
ATOM	5541	OD1	ASN	2317	7.059	28.989	45.149	1.00	36.37
ATOM	5542	ND2	ASN	2317	7.675	30.749	43.893	1.00	36.59
ATOM	5543	C	ASN	2317	11.784	30.021	44.778	1.00	37.86
ATOM	5544	O	ASN	2317	12.117	31.085	45.304	1.00	38.28
ATOM	5545	N	THR	2318	12.574	28.952	44.755	1.00	37.94
ATOM	5546	CA	THR	2318	13.912	28.965	45.333	1.00	37.60
ATOM	5547	CB	THR	2318	13.997	28.096	46.601	1.00	37.26
ATOM	5548	OG1	THR	2318	12.775	28.190	47.345	1.00	37.84
ATOM	5549	CG2	THR	2318	15.142	28.548	47.467	1.00	36.41
ATOM	5550	C	THR	2318	14.821	28.336	44.293	1.00	38.14
ATOM	5551	O	THR	2318	15.080	27.137	44.333	1.00	37.61
ATOM	5552	N	THR	2319	15.287	29.153	43.357	1.00	38.66
ATOM	5553	CA	THR	2319	16.154	28.708	42.270	1.00	38.47
ATOM	5554	CB	THR	2319	16.420	29.884	41.314	1.00	38.22
ATOM	5555	OG1	THR	2319	15.196	30.211	40.647	1.00	37.17
ATOM	5556	CG2	THR	2319	17.503	29.540	40.282	1.00	39.24
ATOM	5557	C	THR	2319	17.481	28.133	42.740	1.00	38.48
ATOM	5558	O	THR	2319	17.913	28.369	43.873	1.00	37.69
ATOM	5559	N	ASP	2320	18.125	27.376	41.857	1.00	38.60
ATOM	5560	CA	ASP	2320	19.403	26.770	42.175	1.00	39.31
ATOM	5561	CB	ASP	2320	19.881	25.858	41.040	1.00	38.95
ATOM	5562	CG	ASP	2320	18.947	24.683	40.782	1.00	38.36
ATOM	5563	OD1	ASP	2320	18.494	24.044	41.752	1.00	37.37
ATOM	5564	OD2	ASP	2320	18.684	24.391	39.594	1.00	38.09
ATOM	5565	C	ASP	2320	20.486	27.800	42.462	1.00	40.12
ATOM	5566	O	ASP	2320	21.450	27.491	43.157	1.00	40.60
ATOM	5567	N	LYS	2321	20.337	29.018	41.941	1.00	40.90
ATOM	5568	CA	LYS	2321	21.353	30.042	42.155	1.00	41.80
ATOM	5569	CB	LYS	2321	20.914	31.387	41.569	1.00	43.44
ATOM	5570	CG	LYS	2321	19.810	32.064	42.342	1.00	47.12
ATOM	5571	CD	LYS	2321	19.446	33.423	41.759	1.00	48.65
ATOM	5572	CE	LYS	2321	18.340	34.057	42.600	1.00	50.98
ATOM	5573	NZ	LYS	2321	17.755	35.282	41.974	1.00	53.35
ATOM	5574	C	LYS	2321	21.672	30.190	43.636	1.00	41.56

ATOM	5575	O	LYS	2321	22.778	30.557	44.002	1.00	41.17
ATOM	5576	N	GLU	2322	20.717	29.850	44.488	1.00	41.77
ATOM	5577	CA	GLU	2322	20.910	29.986	45.920	1.00	42.24
ATOM	5578	CB	GLU	2322	19.905	30.997	46.437	1.00	43.76
ATOM	5579	CG	GLU	2322	18.503	30.623	46.045	1.00	46.69
ATOM	5580	CD	GLU	2322	17.515	31.730	46.309	1.00	48.52
ATOM	5581	OE1	GLU	2322	17.261	32.034	47.503	1.00	49.41
ATOM	5582	OE2	GLU	2322	17.000	32.296	45.314	1.00	49.57
ATOM	5583	C	GLU	2322	20.785	28.713	46.749	1.00	41.07
ATOM	5584	O	GLU	2322	20.782	28.777	47.973	1.00	41.26
ATOM	5585	N	MSE	2323	20.687	27.561	46.103	1.00	39.61
ATOM	5586	CA	MSE	2323	20.538	26.319	46.848	1.00	37.88
ATOM	5587	CB	MSE	2323	19.806	25.275	46.003	1.00	35.05
ATOM	5588	CG	MSE	2323	18.309	25.537	45.788	1.00	30.55
ATOM	5589	SE	MSE	2323	17.386	25.726	47.320	1.00	25.96
ATOM	5590	CE	MSE	2323	17.938	24.311	48.279	1.00	26.31
ATOM	5591	C	MSE	2323	21.835	25.722	47.365	1.00	38.12
ATOM	5592	O	MSE	2323	21.807	24.839	48.209	1.00	38.50
ATOM	5593	N	GLU	2324	22.976	26.195	46.882	1.00	38.57
ATOM	5594	CA	GLU	2324	24.230	25.636	47.352	1.00	38.94
ATOM	5595	CB	GLU	2324	25.285	25.683	46.253	1.00	39.03
ATOM	5596	CG	GLU	2324	25.017	24.692	45.124	1.00	39.58
ATOM	5597	CD	GLU	2324	26.230	24.489	44.216	1.00	40.09
ATOM	5598	OE1	GLU	2324	26.813	25.503	43.770	1.00	40.77
ATOM	5599	OE2	GLU	2324	26.597	23.322	43.943	1.00	39.43
ATOM	5600	C	GLU	2324	24.755	26.266	48.638	1.00	39.20
ATOM	5601	O	GLU	2324	25.880	26.015	49.046	1.00	39.79
ATOM	5602	N	VAL	2325	23.936	27.074	49.293	1.00	39.49
ATOM	5603	CA	VAL	2325	24.351	27.668	50.552	1.00	39.69
ATOM	5604	CB	VAL	2325	25.033	29.039	50.355	1.00	40.22
ATOM	5605	CG1	VAL	2325	24.061	30.036	49.750	1.00	40.63
ATOM	5606	CG2	VAL	2325	25.553	29.545	51.686	1.00	40.30
ATOM	5607	C	VAL	2325	23.163	27.825	51.487	1.00	39.79
ATOM	5608	O	VAL	2325	22.054	28.125	51.058	1.00	40.27
ATOM	5609	N	LEU	2326	23.395	27.583	52.770	1.00	39.40
ATOM	5610	CA	LEU	2326	22.342	27.716	53.769	1.00	39.20
ATOM	5611	CB	LEU	2326	22.081	26.374	54.467	1.00	37.59
ATOM	5612	CG	LEU	2326	21.116	26.375	55.666	1.00	35.15
ATOM	5613	CD1	LEU	2326	19.740	26.806	55.225	1.00	34.39
ATOM	5614	CD2	LEU	2326	21.063	25.000	56.287	1.00	32.79
ATOM	5615	C	LEU	2326	22.797	28.755	54.783	1.00	39.66
ATOM	5616	O	LEU	2326	23.851	28.600	55.396	1.00	39.64
ATOM	5617	N	HIS	2327	22.002	29.811	54.946	1.00	40.11
ATOM	5618	CA	HIS	2327	22.319	30.892	55.875	1.00	40.64
ATOM	5619	CB	HIS	2327	22.012	32.250	55.239	1.00	39.31
ATOM	5620	CG	HIS	2327	22.840	32.560	54.035	1.00	38.31
ATOM	5621	CD2	HIS	2327	22.562	32.464	52.713	1.00	37.82
ATOM	5622	ND1	HIS	2327	24.149	32.987	54.122	1.00	38.78
ATOM	5623	CE1	HIS	2327	24.643	33.136	52.905	1.00	37.87
ATOM	5624	NE2	HIS	2327	23.700	32.824	52.032	1.00	37.87
ATOM	5625	C	HIS	2327	21.544	30.791	57.183	1.00	41.82
ATOM	5626	O	HIS	2327	20.319	30.621	57.187	1.00	42.05
ATOM	5627	N	LEU	2328	22.267	30.898	58.291	1.00	42.60
ATOM	5628	CA	LEU	2328	21.661	30.861	59.612	1.00	43.72
ATOM	5629	CB	LEU	2328	22.167	29.657	60.402	1.00	42.78
ATOM	5630	CG	LEU	2328	21.869	28.275	59.817	1.00	42.23
ATOM	5631	CD1	LEU	2328	22.379	27.213	60.770	1.00	40.90
ATOM	5632	CD2	LEU	2328	20.380	28.111	59.590	1.00	40.44
ATOM	5633	C	LEU	2328	22.082	32.151	60.298	1.00	45.00
ATOM	5634	O	LEU	2328	23.271	32.422	60.448	1.00	45.19
ATOM	5635	N	ARG	2329	21.104	32.947	60.711	1.00	46.79
ATOM	5636	CA	ARG	2329	21.378	34.221	61.355	1.00	48.20

ATOM	5637	CB	ARG	2329	20.512	35.294	60.699	1.00	49.55
ATOM	5638	CG	ARG	2329	20.906	35.568	59.255	1.00	51.68
ATOM	5639	CD	ARG	2329	22.219	36.294	59.239	1.00	53.82
ATOM	5640	NE	ARG	2329	22.775	36.481	57.908	1.00	55.55
ATOM	5641	CZ	ARG	2329	23.752	37.339	57.629	1.00	56.78
ATOM	5642	NH1	ARG	2329	24.277	38.091	58.585	1.00	55.71
ATOM	5643	NH2	ARG	2329	24.207	37.441	56.384	1.00	58.30
ATOM	5644	C	ARG	2329	21.148	34.206	62.860	1.00	48.59
ATOM	5645	O	ARG	2329	20.212	33.574	63.344	1.00	48.74
ATOM	5646	N	ASN	2330	22.012	34.908	63.591	1.00	49.11
ATOM	5647	CA	ASN	2330	21.906	35.001	65.043	1.00	49.29
ATOM	5648	CB	ASN	2330	20.845	36.037	65.404	1.00	50.22
ATOM	5649	CG	ASN	2330	21.024	36.582	66.795	1.00	51.09
ATOM	5650	OD1	ASN	2330	21.082	35.827	67.769	1.00	51.70
ATOM	5651	ND2	ASN	2330	21.120	37.904	66.901	1.00	51.68
ATOM	5652	C	ASN	2330	21.517	33.645	65.612	1.00	49.00
ATOM	5653	O	ASN	2330	20.400	33.460	66.096	1.00	48.47
ATOM	5654	N	VAL	2331	22.445	32.698	65.545	1.00	49.18
ATOM	5655	CA	VAL	2331	22.191	31.343	66.019	1.00	49.30
ATOM	5656	CB	VAL	2331	23.330	30.384	65.611	1.00	48.73
ATOM	5657	CG1	VAL	2331	23.430	30.315	64.103	1.00	47.86
ATOM	5658	CG2	VAL	2331	24.648	30.845	66.215	1.00	48.06
ATOM	5659	C	VAL	2331	21.990	31.219	67.519	1.00	49.58
ATOM	5660	O	VAL	2331	22.659	31.887	68.304	1.00	49.20
ATOM	5661	N	SER	2332	21.055	30.354	67.901	1.00	49.83
ATOM	5662	CA	SER	2332	20.760	30.104	69.303	1.00	50.71
ATOM	5663	CB	SER	2332	19.253	30.113	69.534	1.00	51.34
ATOM	5664	OG	SER	2332	18.674	28.918	69.038	1.00	52.27
ATOM	5665	C	SER	2332	21.306	28.718	69.623	1.00	51.04
ATOM	5666	O	SER	2332	21.916	28.083	68.771	1.00	51.27
ATOM	5667	N	PHE	2333	21.090	28.250	70.848	1.00	51.51
ATOM	5668	CA	PHE	2333	21.552	26.922	71.232	1.00	51.88
ATOM	5669	CB	PHE	2333	21.506	26.762	72.755	1.00	52.11
ATOM	5670	CG	PHE	2333	22.704	27.349	73.455	1.00	52.73
ATOM	5671	CD1	PHE	2333	22.565	28.020	74.665	1.00	53.22
ATOM	5672	CD2	PHE	2333	23.983	27.224	72.902	1.00	52.51
ATOM	5673	CE1	PHE	2333	23.683	28.558	75.315	1.00	53.24
ATOM	5674	CE2	PHE	2333	25.098	27.755	73.540	1.00	52.79
ATOM	5675	CZ	PHE	2333	24.950	28.423	74.748	1.00	53.08
ATOM	5676	C	PHE	2333	20.670	25.888	70.562	1.00	51.59
ATOM	5677	O	PHE	2333	21.067	24.740	70.377	1.00	51.35
ATOM	5678	N	GLU	2334	19.469	26.315	70.187	1.00	51.94
ATOM	5679	CA	GLU	2334	18.526	25.428	69.532	1.00	52.27
ATOM	5680	CB	GLU	2334	17.123	26.048	69.501	1.00	54.00
ATOM	5681	CG	GLU	2334	16.434	26.182	70.863	1.00	56.62
ATOM	5682	CD	GLU	2334	16.839	27.444	71.627	1.00	58.50
ATOM	5683	OE1	GLU	2334	17.974	27.499	72.155	1.00	59.24
ATOM	5684	OE2	GLU	2334	16.016	28.390	71.692	1.00	59.46
ATOM	5685	C	GLU	2334	18.998	25.122	68.112	1.00	51.17
ATOM	5686	O	GLU	2334	18.755	24.032	67.593	1.00	51.65
ATOM	5687	N	ASP	2335	19.687	26.076	67.494	1.00	49.01
ATOM	5688	CA	ASP	2335	20.183	25.883	66.139	1.00	46.76
ATOM	5689	CB	ASP	2335	20.662	27.208	65.544	1.00	47.69
ATOM	5690	CG	ASP	2335	19.518	28.164	65.243	1.00	49.48
ATOM	5691	OD1	ASP	2335	18.427	27.689	64.839	1.00	49.79
ATOM	5692	OD2	ASP	2335	19.715	29.394	65.396	1.00	49.88
ATOM	5693	C	ASP	2335	21.303	24.854	66.038	1.00	44.87
ATOM	5694	O	ASP	2335	21.576	24.337	64.961	1.00	44.07
ATOM	5695	N	ALA	2336	21.960	24.555	67.151	1.00	42.98
ATOM	5696	CA	ALA	2336	23.036	23.575	67.134	1.00	40.92
ATOM	5697	CB	ALA	2336	23.644	23.455	68.495	1.00	40.33
ATOM	5698	C	ALA	2336	22.461	22.236	66.699	1.00	40.00

ATOM	5699	O	ALA	2336	21.272	21.979	66.888	1.00	39.77
ATOM	5700	N	GLY	2337	23.299	21.388	66.107	1.00	38.41
ATOM	5701	CA	GLY	2337	22.825	20.091	65.663	1.00	36.67
ATOM	5702	C	GLY	2337	23.347	19.662	64.304	1.00	36.23
ATOM	5703	O	GLY	2337	24.300	20.240	63.774	1.00	35.86
ATOM	5704	N	GLU	2338	22.712	18.647	63.726	1.00	35.12
ATOM	5705	CA	GLU	2338	23.136	18.129	62.439	1.00	34.42
ATOM	5706	CB	GLU	2338	23.084	16.601	62.460	1.00	33.62
ATOM	5707	CG	GLU	2338	23.609	15.953	61.192	1.00	35.00
ATOM	5708	CD	GLU	2338	23.736	14.443	61.313	1.00	36.05
ATOM	5709	OE1	GLU	2338	22.781	13.813	61.828	1.00	36.23
ATOM	5710	OE2	GLU	2338	24.782	13.888	60.886	1.00	35.37
ATOM	5711	C	GLU	2338	22.333	18.669	61.252	1.00	33.61
ATOM	5712	O	GLU	2338	21.103	18.632	61.246	1.00	33.58
ATOM	5713	N	TYR	2339	23.046	19.177	60.251	1.00	31.91
ATOM	5714	CA	TYR	2339	22.418	19.722	59.057	1.00	30.70
ATOM	5715	CB	TYR	2339	22.855	21.162	58.828	1.00	29.62
ATOM	5716	CG	TYR	2339	22.312	22.126	59.849	1.00	28.70
ATOM	5717	CD1	TYR	2339	22.836	22.183	61.147	1.00	27.71
ATOM	5718	CE1	TYR	2339	22.328	23.083	62.090	1.00	27.95
ATOM	5719	CD2	TYR	2339	21.267	22.988	59.519	1.00	28.00
ATOM	5720	CE2	TYR	2339	20.755	23.884	60.442	1.00	28.05
ATOM	5721	CZ	TYR	2339	21.282	23.931	61.720	1.00	28.10
ATOM	5722	OH	TYR	2339	20.739	24.819	62.612	1.00	27.66
ATOM	5723	C	TYR	2339	22.810	18.884	57.864	1.00	30.67
ATOM	5724	O	TYR	2339	23.968	18.476	57.728	1.00	31.09
ATOM	5725	N	THR	2340	21.850	18.634	56.986	1.00	29.93
ATOM	5726	CA	THR	2340	22.123	17.806	55.826	1.00	29.42
ATOM	5727	CB	THR	2340	21.381	16.436	55.936	1.00	28.47
ATOM	5728	OG1	THR	2340	21.868	15.720	57.075	1.00	26.86
ATOM	5729	CG2	THR	2340	21.595	15.599	54.685	1.00	26.96
ATOM	5730	C	THR	2340	21.760	18.448	54.492	1.00	29.66
ATOM	5731	O	THR	2340	20.753	19.149	54.368	1.00	28.27
ATOM	5732	N	CYS	2341	22.620	18.214	53.504	1.00	30.06
ATOM	5733	CA	CYS	2341	22.382	18.688	52.147	1.00	30.28
ATOM	5734	CB	CYS	2341	23.628	19.318	51.538	1.00	29.84
ATOM	5735	SG	CYS	2341	23.398	19.658	49.768	1.00	30.86
ATOM	5736	C	CYS	2341	22.003	17.434	51.351	1.00	30.59
ATOM	5737	O	CYS	2341	22.834	16.547	51.124	1.00	29.25
ATOM	5738	N	LEU	2342	20.741	17.370	50.948	1.00	30.22
ATOM	5739	CA	LEU	2342	20.212	16.237	50.222	1.00	29.91
ATOM	5740	CB	LEU	2342	18.877	15.872	50.860	1.00	29.44
ATOM	5741	CG	LEU	2342	18.071	14.679	50.360	1.00	29.94
ATOM	5742	CD1	LEU	2342	18.885	13.404	50.486	1.00	29.69
ATOM	5743	CD2	LEU	2342	16.785	14.588	51.181	1.00	28.73
ATOM	5744	C	LEU	2342	20.043	16.588	48.745	1.00	29.86
ATOM	5745	O	LEU	2342	19.448	17.604	48.409	1.00	30.73
ATOM	5746	N	ALA	2343	20.566	15.750	47.859	1.00	29.56
ATOM	5747	CA	ALA	2343	20.453	16.009	46.425	1.00	28.85
ATOM	5748	CB	ALA	2343	21.782	16.546	45.887	1.00	28.63
ATOM	5749	C	ALA	2343	20.062	14.748	45.673	1.00	27.76
ATOM	5750	O	ALA	2343	20.668	13.704	45.857	1.00	28.73
ATOM	5751	N	GLY	2344	19.053	14.836	44.823	1.00	27.01
ATOM	5752	CA	GLY	2344	18.666	13.657	44.079	1.00	26.44
ATOM	5753	C	GLY	2344	18.204	13.933	42.672	1.00	26.25
ATOM	5754	O	GLY	2344	17.879	15.063	42.329	1.00	25.47
ATOM	5755	N	ASN	2345	18.233	12.894	41.845	1.00	27.20
ATOM	5756	CA	ASN	2345	17.749	12.963	40.471	1.00	27.74
ATOM	5757	CB	ASN	2345	18.867	13.259	39.439	1.00	27.25
ATOM	5758	CG	ASN	2345	20.054	12.311	39.523	1.00	26.29
ATOM	5759	OD1	ASN	2345	19.910	11.136	39.829	1.00	26.93
ATOM	5760	ND2	ASN	2345	21.238	12.827	39.217	1.00	25.61

ATOM	5761	C	ASN	2345	17.071	11.623	40.209	1.00	27.96
ATOM	5762	O	ASN	2345	17.013	10.783	41.097	1.00	27.36
ATOM	5763	N	SER	2346	16.543	11.426	39.011	1.00	29.34
ATOM	5764	CA	SER	2346	15.850	10.185	38.701	1.00	30.55
ATOM	5765	CB	SER	2346	15.461	10.172	37.229	1.00	31.28
ATOM	5766	OG	SER	2346	16.402	10.922	36.468	1.00	35.03
ATOM	5767	C	SER	2346	16.656	8.943	39.038	1.00	30.81
ATOM	5768	O	SER	2346	16.096	7.928	39.460	1.00	31.47
ATOM	5769	N	ILE	2347	17.974	9.024	38.884	1.00	30.77
ATOM	5770	CA	ILE	2347	18.841	7.874	39.160	1.00	29.89
ATOM	5771	CB	ILE	2347	20.198	8.001	38.455	1.00	29.08
ATOM	5772	CG2	ILE	2347	21.043	6.776	38.752	1.00	27.57
ATOM	5773	CG1	ILE	2347	19.989	8.136	36.951	1.00	28.42
ATOM	5774	CD1	ILE	2347	20.940	9.106	36.304	1.00	30.66
ATOM	5775	C	ILE	2347	19.122	7.559	40.623	1.00	30.07
ATOM	5776	O	ILE	2347	19.302	6.391	40.967	1.00	31.51
ATOM	5777	N	GLY	2348	19.175	8.573	41.485	1.00	29.89
ATOM	5778	CA	GLY	2348	19.450	8.306	42.888	1.00	29.38
ATOM	5779	C	GLY	2348	19.604	9.514	43.798	1.00	30.05
ATOM	5780	O	GLY	2348	19.551	10.663	43.355	1.00	30.31
ATOM	5781	N	LEU	2349	19.816	9.231	45.081	1.00	30.13
ATOM	5782	CA	LEU	2349	19.971	10.230	46.141	1.00	30.18
ATOM	5783	CB	LEU	2349	19.032	9.888	47.297	1.00	31.22
ATOM	5784	CG	LEU	2349	17.594	10.395	47.424	1.00	33.34
ATOM	5785	CD1	LEU	2349	17.637	11.870	47.774	1.00	34.28
ATOM	5786	CD2	LEU	2349	16.817	10.167	46.146	1.00	32.99
ATOM	5787	C	LEU	2349	21.388	10.293	46.729	1.00	30.22
ATOM	5788	O	LEU	2349	22.084	9.285	46.815	1.00	30.95
ATOM	5789	N	SER	2350	21.802	11.475	47.162	1.00	29.07
ATOM	5790	CA	SER	2350	23.108	11.649	47.785	1.00	28.61
ATOM	5791	CB	SER	2350	24.154	12.125	46.776	1.00	28.13
ATOM	5792	OG	SER	2350	24.477	11.116	45.849	1.00	28.81
ATOM	5793	C	SER	2350	22.968	12.692	48.878	1.00	28.39
ATOM	5794	O	SER	2350	22.117	13.580	48.794	1.00	27.93
ATOM	5795	N	HIS	2351	23.795	12.593	49.908	1.00	27.95
ATOM	5796	CA	HIS	2351	23.715	13.568	50.977	1.00	28.80
ATOM	5797	CB	HIS	2351	22.546	13.252	51.920	1.00	28.32
ATOM	5798	CG	HIS	2351	22.783	12.060	52.784	1.00	28.97
ATOM	5799	CD2	HIS	2351	23.244	11.960	54.054	1.00	29.71
ATOM	5800	ND1	HIS	2351	22.605	10.769	52.336	1.00	29.72
ATOM	5801	CE1	HIS	2351	22.948	9.924	53.293	1.00	29.38
ATOM	5802	NE2	HIS	2351	23.341	10.621	54.344	1.00	29.71
ATOM	5803	C	HIS	2351	24.997	13.648	51.783	1.00	28.90
ATOM	5804	O	HIS	2351	25.747	12.675	51.885	1.00	29.30
ATOM	5805	N	HIS	2352	25.237	14.827	52.345	1.00	28.59
ATOM	5806	CA	HIS	2352	26.400	15.096	53.179	1.00	28.39
ATOM	5807	CB	HIS	2352	27.389	16.038	52.476	1.00	28.83
ATOM	5808	CG	HIS	2352	28.368	15.346	51.575	1.00	30.62
ATOM	5809	CD2	HIS	2352	28.536	14.036	51.267	1.00	31.12
ATOM	5810	ND1	HIS	2352	29.327	16.031	50.856	1.00	31.74
ATOM	5811	CE1	HIS	2352	30.040	15.174	50.143	1.00	31.60
ATOM	5812	NE2	HIS	2352	29.580	13.957	50.374	1.00	31.34
ATOM	5813	C	HIS	2352	25.837	15.784	54.410	1.00	28.22
ATOM	5814	O	HIS	2352	24.852	16.522	54.326	1.00	28.05
ATOM	5815	N	SER	2353	26.457	15.544	55.553	1.00	28.04
ATOM	5816	CA	SER	2353	25.994	16.147	56.785	1.00	28.02
ATOM	5817	CB	SER	2353	25.378	15.087	57.681	1.00	26.72
ATOM	5818	OG	SER	2353	24.294	14.483	57.014	1.00	28.61
ATOM	5819	C	SER	2353	27.135	16.827	57.505	1.00	28.73
ATOM	5820	O	SER	2353	28.299	16.484	57.311	1.00	28.84
ATOM	5821	N	ALA	2354	26.793	17.804	58.329	1.00	29.20
ATOM	5822	CA	ALA	2354	27.788	18.534	59.085	1.00	29.78

ATOM	5823	CB	ALA	2354	28.169	19.824	58.359	1.00	29.62
ATOM	5824	C	ALA	2354	27.151	18.850	60.411	1.00	30.68
ATOM	5825	O	ALA	2354	25.929	18.889	60.528	1.00	29.77
ATOM	5826	N	TRP	2355	27.986	19.070	61.412	1.00	32.45
ATOM	5827	CA	TRP	2355	27.504	19.385	62.736	1.00	34.06
ATOM	5828	CB	TRP	2355	28.183	18.467	63.756	1.00	35.85
ATOM	5829	CG	TRP	2355	27.193	17.678	64.547	1.00	38.67
ATOM	5830	CD2	TRP	2355	26.819	16.315	64.327	1.00	39.69
ATOM	5831	CE2	TRP	2355	25.750	16.027	65.216	1.00	40.54
ATOM	5832	CE3	TRP	2355	27.276	15.313	63.462	1.00	40.67
ATOM	5833	CD1	TRP	2355	26.372	18.147	65.538	1.00	39.63
ATOM	5834	NE1	TRP	2355	25.500	17.161	65.940	1.00	40.42
ATOM	5835	CZ2	TRP	2355	25.130	14.771	65.263	1.00	40.53
ATOM	5836	CZ3	TRP	2355	26.657	14.060	63.507	1.00	42.07
ATOM	5837	CH2	TRP	2355	25.592	13.803	64.406	1.00	41.22
ATOM	5838	C	TRP	2355	27.779	20.842	63.065	1.00	34.15
ATOM	5839	O	TRP	2355	28.846	21.370	62.741	1.00	34.33
ATOM	5840	N	LEU	2356	26.810	21.493	63.694	1.00	34.24
ATOM	5841	CA	LEU	2356	26.972	22.885	64.081	1.00	34.60
ATOM	5842	CB	LEU	2356	25.792	23.718	63.566	1.00	34.30
ATOM	5843	CG	LEU	2356	25.771	25.264	63.601	1.00	34.52
ATOM	5844	CD1	LEU	2356	25.012	25.733	64.808	1.00	33.94
ATOM	5845	CD2	LEU	2356	27.177	25.849	63.573	1.00	33.95
ATOM	5846	C	LEU	2356	27.043	22.940	65.598	1.00	35.24
ATOM	5847	O	LEU	2356	26.116	22.509	66.284	1.00	35.36
ATOM	5848	N	THR	2357	28.160	23.432	66.123	1.00	35.71
ATOM	5849	CA	THR	2357	28.320	23.553	67.562	1.00	36.50
ATOM	5850	CB	THR	2357	29.633	22.950	68.038	1.00	36.80
ATOM	5851	OG1	THR	2357	29.586	21.536	67.838	1.00	37.50
ATOM	5852	CG2	THR	2357	29.850	23.240	69.515	1.00	36.17
ATOM	5853	C	THR	2357	28.252	25.014	67.970	1.00	37.46
ATOM	5854	O	THR	2357	28.972	25.865	67.451	1.00	37.57
ATOM	5855	N	VAL	2358	27.364	25.297	68.909	1.00	39.05
ATOM	5856	CA	VAL	2358	27.161	26.658	69.394	1.00	40.47
ATOM	5857	CB	VAL	2358	25.652	27.033	69.348	1.00	40.22
ATOM	5858	CG1	VAL	2358	25.448	28.473	69.801	1.00	39.63
ATOM	5859	CG2	VAL	2358	25.113	26.819	67.939	1.00	39.20
ATOM	5860	C	VAL	2358	27.659	26.848	70.826	1.00	41.06
ATOM	5861	O	VAL	2358	27.292	26.092	71.726	1.00	41.47
ATOM	5862	N	LEU	2359	28.490	27.862	71.033	1.00	41.72
ATOM	5863	CA	LEU	2359	29.008	28.153	72.361	1.00	42.23
ATOM	5864	CB	LEU	2359	30.530	28.045	72.353	1.00	40.82
ATOM	5865	CG	LEU	2359	31.015	26.712	71.777	1.00	40.56
ATOM	5866	CD1	LEU	2359	32.528	26.682	71.755	1.00	39.75
ATOM	5867	CD2	LEU	2359	30.467	25.558	72.598	1.00	39.96
ATOM	5868	C	LEU	2359	28.566	29.553	72.796	1.00	42.82
ATOM	5869	O	LEU	2359	28.662	29.846	74.011	1.00	44.64
ATOM	5870	CB	MSE	3149	8.217	-10.346	-17.866	1.00	71.78
ATOM	5871	CG	MSE	3149	9.085	-11.589	-17.649	1.00	74.35
ATOM	5872	SE	MSE	3149	8.445	-13.188	-18.291	1.00	77.77
ATOM	5873	CE	MSE	3149	9.236	-13.242	-19.932	1.00	76.24
ATOM	5874	C	MSE	3149	7.115	-10.623	-15.631	1.00	70.14
ATOM	5875	O	MSE	3149	8.134	-10.218	-15.073	1.00	70.36
ATOM	5876	N	MSE	3149	6.163	-9.068	-17.300	1.00	70.56
ATOM	5877	CA	MSE	3149	6.879	-10.362	-17.117	1.00	70.95
ATOM	5878	N	PRO	3150	6.168	-11.313	-14.973	1.00	68.78
ATOM	5879	CD	PRO	3150	5.019	-11.963	-15.618	1.00	68.56
ATOM	5880	CA	PRO	3150	6.209	-11.660	-13.551	1.00	67.47
ATOM	5881	CB	PRO	3150	4.956	-12.508	-13.373	1.00	67.99
ATOM	5882	CG	PRO	3150	4.794	-13.147	-14.724	1.00	68.42
ATOM	5883	C	PRO	3150	7.463	-12.398	-13.105	1.00	66.14
ATOM	5884	O	PRO	3150	7.832	-13.427	-13.679	1.00	66.42

ATOM	5885	N	VAL	3151	8.105	-11.863	-12.068	1.00	64.31
ATOM	5886	CA	VAL	3151	9.324	-12.445	-11.508	1.00	62.30
ATOM	5887	CB	VAL	3151	10.571	-11.607	-11.875	1.00	62.18
ATOM	5888	CG1	VAL	3151	11.817	-12.299	-11.372	1.00	61.97
ATOM	5889	CG2	VAL	3151	10.648	-11.398	-13.374	1.00	62.53
ATOM	5890	C	VAL	3151	9.247	-12.502	-9.981	1.00	60.85
ATOM	5891	O	VAL	3151	9.061	-11.472	-9.326	1.00	60.38
ATOM	5892	N	ALA	3152	9.387	-13.703	-9.421	1.00	59.03
ATOM	5893	CA	ALA	3152	9.360	-13.880	-7.973	1.00	57.10
ATOM	5894	CB	ALA	3152	9.332	-15.353	-7.623	1.00	56.77
ATOM	5895	C	ALA	3152	10.620	-13.231	-7.409	1.00	55.85
ATOM	5896	O	ALA	3152	11.694	-13.328	-8.003	1.00	55.28
ATOM	5897	N	PRO	3153	10.508	-12.577	-6.242	1.00	54.78
ATOM	5898	CD	PRO	3153	9.335	-12.590	-5.354	1.00	54.73
ATOM	5899	CA	PRO	3153	11.635	-11.901	-5.592	1.00	53.81
ATOM	5900	CB	PRO	3153	11.059	-11.498	-4.234	1.00	54.39
ATOM	5901	CG	PRO	3153	9.973	-12.507	-4.002	1.00	54.71
ATOM	5902	C	PRO	3153	12.939	-12.691	-5.479	1.00	52.78
ATOM	5903	O	PRO	3153	12.939	-13.894	-5.226	1.00	52.55
ATOM	5904	N	TYR	3154	14.050	-11.990	-5.686	1.00	51.29
ATOM	5905	CA	TYR	3154	15.378	-12.585	-5.608	1.00	50.25
ATOM	5906	CB	TYR	3154	15.807	-13.111	-6.972	1.00	50.65
ATOM	5907	CG	TYR	3154	15.944	-12.025	-8.022	1.00	50.79
ATOM	5908	CD1	TYR	3154	14.815	-11.419	-8.577	1.00	50.42
ATOM	5909	CE1	TYR	3154	14.932	-10.428	-9.550	1.00	50.44
ATOM	5910	CD2	TYR	3154	17.200	-11.607	-8.464	1.00	49.96
ATOM	5911	CE2	TYR	3154	17.327	-10.618	-9.438	1.00	49.98
ATOM	5912	CZ	TYR	3154	16.188	-10.034	-9.977	1.00	50.51
ATOM	5913	OH	TYR	3154	16.296	-9.070	-10.956	1.00	50.89
ATOM	5914	C	TYR	3154	16.393	-11.542	-5.144	1.00	49.70
ATOM	5915	O	TYR	3154	16.210	-10.346	-5.365	1.00	49.15
ATOM	5916	N	TRP	3155	17.465	-12.001	-4.508	1.00	49.09
ATOM	5917	CA	TRP	3155	18.504	-11.103	-4.022	1.00	49.21
ATOM	5918	CB	TRP	3155	19.464	-11.837	-3.095	1.00	48.23
ATOM	5919	CG	TRP	3155	18.808	-12.485	-1.925	1.00	47.22
ATOM	5920	CD2	TRP	3155	17.904	-11.878	-0.996	1.00	46.64
ATOM	5921	CE2	TRP	3155	17.514	-12.878	-0.081	1.00	46.72
ATOM	5922	CE3	TRP	3155	17.383	-10.586	-0.847	1.00	46.86
ATOM	5923	CD1	TRP	3155	18.931	-13.785	-1.547	1.00	46.98
ATOM	5924	NE1	TRP	3155	18.157	-14.033	-0.443	1.00	46.90
ATOM	5925	CZ2	TRP	3155	16.622	-12.630	0.972	1.00	46.50
ATOM	5926	CZ3	TRP	3155	16.495	-10.339	0.203	1.00	46.39
ATOM	5927	CH2	TRP	3155	16.126	-11.359	1.096	1.00	46.38
ATOM	5928	C	TRP	3155	19.296	-10.590	-5.207	1.00	50.04
ATOM	5929	O	TRP	3155	19.629	-11.359	-6.101	1.00	50.56
ATOM	5930	N	THR	3156	19.605	-9.298	-5.214	1.00	50.73
ATOM	5931	CA	THR	3156	20.372	-8.720	-6.308	1.00	51.26
ATOM	5932	CB	THR	3156	19.880	-7.318	-6.674	1.00	50.88
ATOM	5933	OG1	THR	3156	20.221	-6.400	-5.628	1.00	50.70
ATOM	5934	CG2	THR	3156	18.379	-7.326	-6.869	1.00	51.27
ATOM	5935	C	THR	3156	21.842	-8.615	-5.941	1.00	52.24
ATOM	5936	O	THR	3156	22.700	-8.550	-6.819	1.00	52.33
ATOM	5937	N	SER	3157	22.135	-8.592	-4.643	1.00	53.52
ATOM	5938	CA	SER	3157	23.520	-8.497	-4.176	1.00	54.58
ATOM	5939	CB	SER	3157	23.845	-7.072	-3.722	1.00	53.89
ATOM	5940	OG	SER	3157	23.718	-6.153	-4.789	1.00	53.44
ATOM	5941	C	SER	3157	23.769	-9.456	-3.022	1.00	55.64
ATOM	5942	O	SER	3157	24.179	-9.045	-1.937	1.00	55.63
ATOM	5943	N	PRO	3158	23.540	-10.760	-3.250	1.00	56.77
ATOM	5944	CD	PRO	3158	23.396	-11.403	-4.567	1.00	56.59
ATOM	5945	CA	PRO	3158	23.748	-11.764	-2.201	1.00	57.49
ATOM	5946	CB	PRO	3158	23.533	-13.080	-2.941	1.00	57.10

ATOM	5947	CG	PRO	3158	24.024	-12.755	-4.323	1.00	57.31
ATOM	5948	C	PRO	3158	25.146	-11.661	-1.605	1.00	58.38
ATOM	5949	O	PRO	3158	25.388	-12.070	-0.468	1.00	58.22
ATOM	5950	N	GLU	3159	26.067	-11.106	-2.386	1.00	59.59
ATOM	5951	CA	GLU	3159	27.435	-10.954	-1.928	1.00	60.72
ATOM	5952	CB	GLU	3159	28.321	-10.439	-3.062	1.00	62.53
ATOM	5953	CG	GLU	3159	28.488	-11.471	-4.168	1.00	65.72
ATOM	5954	CD	GLU	3159	28.981	-12.822	-3.633	1.00	67.62
ATOM	5955	OE1	GLU	3159	30.215	-13.004	-3.473	1.00	68.34
ATOM	5956	OE2	GLU	3159	28.125	-13.699	-3.361	1.00	68.68
ATOM	5957	C	GLU	3159	27.516	-10.035	-0.717	1.00	60.39
ATOM	5958	O	GLU	3159	28.267	-10.299	0.212	1.00	60.66
ATOM	5959	N	LYS	3160	26.726	-8.967	-0.718	1.00	59.69
ATOM	5960	CA	LYS	3160	26.720	-8.014	0.393	1.00	58.90
ATOM	5961	CB	LYS	3160	26.156	-6.672	-0.065	1.00	59.09
ATOM	5962	CG	LYS	3160	26.800	-6.102	-1.297	1.00	60.62
ATOM	5963	CD	LYS	3160	26.281	-4.701	-1.560	1.00	61.12
ATOM	5964	CE	LYS	3160	27.051	-4.034	-2.683	1.00	61.67
ATOM	5965	NZ	LYS	3160	26.631	-2.618	-2.824	1.00	62.24
ATOM	5966	C	LYS	3160	25.870	-8.471	1.570	1.00	58.15
ATOM	5967	O	LYS	3160	25.566	-7.673	2.460	1.00	58.16
ATOM	5968	N	MSE	3161	25.455	-9.730	1.568	1.00	57.03
ATOM	5969	CA	MSE	3161	24.624	-10.243	2.653	1.00	56.02
ATOM	5970	CB	MSE	3161	23.302	-10.766	2.089	1.00	54.94
ATOM	5971	CG	MSE	3161	22.436	-9.683	1.463	1.00	53.02
ATOM	5972	SE	MSE	3161	20.924	-10.315	0.724	1.00	52.22
ATOM	5973	CE	MSE	3161	19.989	-10.802	2.180	1.00	50.52
ATOM	5974	C	MSE	3161	25.372	-11.349	3.381	1.00	56.09
ATOM	5975	O	MSE	3161	24.787	-12.130	4.135	1.00	56.36
ATOM	5976	N	GLU	3162	26.682	-11.387	3.146	1.00	56.01
ATOM	5977	CA	GLU	3162	27.584	-12.375	3.736	1.00	55.93
ATOM	5978	CB	GLU	3162	29.021	-12.131	3.256	1.00	57.48
ATOM	5979	CG	GLU	3162	29.216	-12.008	1.759	1.00	59.23
ATOM	5980	CD	GLU	3162	29.309	-13.341	1.055	1.00	60.27
ATOM	5981	OE1	GLU	3162	28.448	-14.210	1.318	1.00	61.01
ATOM	5982	OE2	GLU	3162	30.241	-13.509	0.233	1.00	60.72
ATOM	5983	C	GLU	3162	27.607	-12.319	5.262	1.00	55.10
ATOM	5984	O	GLU	3162	27.311	-13.301	5.945	1.00	54.98
ATOM	5985	N	LYS	3163	27.996	-11.156	5.777	1.00	53.85
ATOM	5986	CA	LYS	3163	28.120	-10.913	7.209	1.00	51.81
ATOM	5987	CB	LYS	3163	28.721	-9.521	7.419	1.00	51.93
ATOM	5988	CG	LYS	3163	28.979	-9.121	8.856	1.00	51.89
ATOM	5989	CD	LYS	3163	29.409	-7.668	8.877	1.00	52.70
ATOM	5990	CE	LYS	3163	29.482	-7.099	10.275	1.00	53.18
ATOM	5991	NZ	LYS	3163	29.645	-5.613	10.231	1.00	53.09
ATOM	5992	C	LYS	3163	26.793	-11.041	7.953	1.00	50.72
ATOM	5993	O	LYS	3163	25.949	-10.142	7.901	1.00	50.83
ATOM	5994	N	LYS	3164	26.610	-12.159	8.650	1.00	49.06
ATOM	5995	CA	LYS	3164	25.376	-12.372	9.398	1.00	47.64
ATOM	5996	CB	LYS	3164	25.025	-13.860	9.472	1.00	48.18
ATOM	5997	CG	LYS	3164	24.025	-14.280	8.393	1.00	49.89
ATOM	5998	CD	LYS	3164	23.779	-15.790	8.373	1.00	50.41
ATOM	5999	CE	LYS	3164	22.787	-16.173	7.273	1.00	50.75
ATOM	6000	NZ	LYS	3164	22.722	-17.646	7.033	1.00	51.00
ATOM	6001	C	LYS	3164	25.399	-11.768	10.794	1.00	45.99
ATOM	6002	O	LYS	3164	24.393	-11.225	11.243	1.00	46.02
ATOM	6003	N	LEU	3165	26.536	-11.856	11.484	1.00	43.95
ATOM	6004	CA	LEU	3165	26.630	-11.288	12.825	1.00	41.68
ATOM	6005	CB	LEU	3165	27.530	-12.127	13.735	1.00	41.41
ATOM	6006	CG	LEU	3165	27.798	-11.537	15.137	1.00	41.80
ATOM	6007	CD1	LEU	3165	26.528	-11.485	15.967	1.00	40.75
ATOM	6008	CD2	LEU	3165	28.820	-12.385	15.855	1.00	41.95

ATOM	6009	C	LEU	3165	27.184	-9.885	12.781	1.00	40.60
ATOM	6010	O	LEU	3165	28.268	-9.654	12.251	1.00	40.14
ATOM	6011	N	HIS	3166	26.426	-8.943	13.331	1.00	39.25
ATOM	6012	CA	HIS	3166	26.869	-7.558	13.396	1.00	37.80
ATOM	6013	CB	HIS	3166	25.798	-6.594	12.888	1.00	40.57
ATOM	6014	CG	HIS	3166	25.774	-6.410	11.404	1.00	43.08
ATOM	6015	CD2	HIS	3166	25.865	-5.289	10.648	1.00	44.64
ATOM	6016	ND1	HIS	3166	25.566	-7.451	10.522	1.00	44.80
ATOM	6017	CE1	HIS	3166	25.529	-6.979	9.286	1.00	45.27
ATOM	6018	NE2	HIS	3166	25.707	-5.669	9.334	1.00	45.69
ATOM	6019	C	HIS	3166	27.108	-7.269	14.875	1.00	36.04
ATOM	6020	O	HIS	3166	26.167	-7.230	15.669	1.00	35.15
ATOM	6021	N	ALA	3167	28.365	-7.097	15.255	1.00	34.29
ATOM	6022	CA	ALA	3167	28.677	-6.791	16.644	1.00	32.48
ATOM	6023	CB	ALA	3167	29.688	-7.777	17.200	1.00	32.36
ATOM	6024	C	ALA	3167	29.239	-5.384	16.648	1.00	31.39
ATOM	6025	O	ALA	3167	30.135	-5.063	15.855	1.00	31.82
ATOM	6026	N	VAL	3168	28.704	-4.542	17.526	1.00	29.57
ATOM	6027	CA	VAL	3168	29.134	-3.156	17.595	1.00	27.71
ATOM	6028	CB	VAL	3168	28.226	-2.278	16.685	1.00	27.49
ATOM	6029	CG1	VAL	3168	28.195	-2.842	15.272	1.00	26.64
ATOM	6030	CG2	VAL	3168	26.811	-2.239	17.239	1.00	26.75
ATOM	6031	C	VAL	3168	29.070	-2.615	19.018	1.00	26.78
ATOM	6032	O	VAL	3168	28.329	-3.136	19.847	1.00	26.51
ATOM	6033	N	PRO	3169	29.860	-1.571	19.322	1.00	25.75
ATOM	6034	CD	PRO	3169	30.703	-0.764	18.434	1.00	26.17
ATOM	6035	CA	PRO	3169	29.841	-0.990	20.663	1.00	25.63
ATOM	6036	CB	PRO	3169	31.012	-0.015	20.660	1.00	25.34
ATOM	6037	CG	PRO	3169	31.725	-0.253	19.382	1.00	26.02
ATOM	6038	C	PRO	3169	28.531	-0.213	20.730	1.00	26.09
ATOM	6039	O	PRO	3169	27.948	0.107	19.693	1.00	25.98
ATOM	6040	N	ALA	3170	28.074	0.102	21.933	1.00	26.30
ATOM	6041	CA	ALA	3170	26.832	0.862	22.088	1.00	26.78
ATOM	6042	CB	ALA	3170	26.484	1.017	23.564	1.00	26.53
ATOM	6043	C	ALA	3170	26.983	2.235	21.454	1.00	26.52
ATOM	6044	O	ALA	3170	28.101	2.734	21.307	1.00	27.54
ATOM	6045	N	ALA	3171	25.854	2.818	21.058	1.00	26.13
ATOM	6046	CA	ALA	3171	25.790	4.148	20.450	1.00	26.58
ATOM	6047	CB	ALA	3171	26.711	5.116	21.181	1.00	26.27
ATOM	6048	C	ALA	3171	26.087	4.202	18.963	1.00	27.77
ATOM	6049	O	ALA	3171	25.857	5.226	18.312	1.00	28.62
ATOM	6050	N	LYS	3172	26.599	3.115	18.412	1.00	28.34
ATOM	6051	CA	LYS	3172	26.906	3.097	16.995	1.00	29.17
ATOM	6052	CB	LYS	3172	27.845	1.923	16.696	1.00	30.78
ATOM	6053	CG	LYS	3172	28.457	1.956	15.304	1.00	32.97
ATOM	6054	CD	LYS	3172	29.358	0.753	15.044	1.00	33.41
ATOM	6055	CE	LYS	3172	30.144	0.941	13.746	1.00	34.59
ATOM	6056	NZ	LYS	3172	29.263	1.283	12.577	1.00	35.03
ATOM	6057	C	LYS	3172	25.624	2.987	16.159	1.00	29.07
ATOM	6058	O	LYS	3172	24.585	2.528	16.647	1.00	29.22
ATOM	6059	N	THR	3173	25.690	3.432	14.909	1.00	28.75
ATOM	6060	CA	THR	3173	24.535	3.338	14.033	1.00	28.80
ATOM	6061	CB	THR	3173	24.457	4.545	13.109	1.00	28.30
ATOM	6062	OG1	THR	3173	23.941	5.653	13.857	1.00	27.79
ATOM	6063	CG2	THR	3173	23.543	4.260	11.928	1.00	28.83
ATOM	6064	C	THR	3173	24.645	2.032	13.258	1.00	29.42
ATOM	6065	O	THR	3173	25.713	1.681	12.755	1.00	30.21
ATOM	6066	N	VAL	3174	23.548	1.291	13.197	1.00	29.82
ATOM	6067	CA	VAL	3174	23.557	0.008	12.510	1.00	30.09
ATOM	6068	CB	VAL	3174	23.186	-1.124	13.484	1.00	28.87
ATOM	6069	CG1	VAL	3174	22.983	-2.428	12.740	1.00	28.04
ATOM	6070	CG2	VAL	3174	24.293	-1.283	14.500	1.00	28.83

ATOM	6071	C	VAL	3174	22.619	0.013	11.318	1.00	30.91
ATOM	6072	O	VAL	3174	21.512	0.549	11.381	1.00	30.79
ATOM	6073	N	LYS	3175	23.076	-0.578	10.222	1.00	32.06
ATOM	6074	CA	LYS	3175	22.267	-0.628	9.024	1.00	33.55
ATOM	6075	CB	LYS	3175	22.770	0.408	8.012	1.00	34.53
ATOM	6076	CG	LYS	3175	21.870	0.577	6.801	1.00	36.89
ATOM	6077	CD	LYS	3175	22.337	1.726	5.924	1.00	39.24
ATOM	6078	CE	LYS	3175	21.393	1.951	4.750	1.00	39.73
ATOM	6079	NZ	LYS	3175	21.784	3.133	3.930	1.00	41.45
ATOM	6080	C	LYS	3175	22.249	-2.024	8.407	1.00	33.32
ATOM	6081	O	LYS	3175	23.286	-2.601	8.107	1.00	33.70
ATOM	6082	N	PHE	3176	21.050	-2.558	8.235	1.00	33.92
ATOM	6083	CA	PHE	3176	20.865	-3.873	7.650	1.00	34.13
ATOM	6084	CB	PHE	3176	19.968	-4.721	8.540	1.00	31.96
ATOM	6085	CG	PHE	3176	20.587	-5.082	9.845	1.00	30.12
ATOM	6086	CD1	PHE	3176	21.910	-5.497	9.906	1.00	29.71
ATOM	6087	CD2	PHE	3176	19.838	-5.071	11.005	1.00	29.63
ATOM	6088	CE1	PHE	3176	22.478	-5.904	11.102	1.00	29.50
ATOM	6089	CE2	PHE	3176	20.399	-5.476	12.210	1.00	30.45
ATOM	6090	CZ	PHE	3176	21.727	-5.896	12.257	1.00	29.17
ATOM	6091	C	PHE	3176	20.197	-3.704	6.300	1.00	35.61
ATOM	6092	O	PHE	3176	19.304	-2.867	6.147	1.00	36.07
ATOM	6093	N	LYS	3177	20.625	-4.483	5.315	1.00	36.95
ATOM	6094	CA	LYS	3177	20.002	-4.383	4.014	1.00	38.56
ATOM	6095	CB	LYS	3177	20.748	-3.380	3.125	1.00	39.62
ATOM	6096	CG	LYS	3177	22.254	-3.523	3.060	1.00	41.82
ATOM	6097	CD	LYS	3177	22.844	-2.304	2.342	1.00	42.64
ATOM	6098	CE	LYS	3177	24.365	-2.276	2.402	1.00	44.37
ATOM	6099	NZ	LYS	3177	24.905	-1.054	1.707	1.00	45.40
ATOM	6100	C	LYS	3177	19.841	-5.721	3.322	1.00	38.93
ATOM	6101	O	LYS	3177	20.598	-6.657	3.551	1.00	37.98
ATOM	6102	N	CYS	3178	18.806	-5.799	2.498	1.00	40.12
ATOM	6103	CA	CYS	3178	18.495	-6.999	1.748	1.00	41.37
ATOM	6104	CB	CYS	3178	17.349	-7.739	2.427	1.00	42.64
ATOM	6105	SG	CYS	3178	17.858	-8.494	3.970	1.00	44.96
ATOM	6106	C	CYS	3178	18.112	-6.600	0.335	1.00	41.53
ATOM	6107	O	CYS	3178	16.950	-6.693	-0.061	1.00	41.06
ATOM	6108	N	PRO	3179	19.095	-6.122	-0.438	1.00	42.05
ATOM	6109	CD	PRO	3179	20.524	-6.009	-0.099	1.00	41.96
ATOM	6110	CA	PRO	3179	18.842	-5.706	-1.816	1.00	42.44
ATOM	6111	CB	PRO	3179	20.218	-5.259	-2.297	1.00	42.84
ATOM	6112	CG	PRO	3179	21.167	-6.059	-1.446	1.00	42.62
ATOM	6113	C	PRO	3179	18.252	-6.840	-2.645	1.00	43.20
ATOM	6114	O	PRO	3179	18.834	-7.924	-2.760	1.00	42.85
ATOM	6115	N	SER	3180	17.070	-6.595	-3.193	1.00	43.70
ATOM	6116	CA	SER	3180	16.421	-7.594	-4.010	1.00	45.13
ATOM	6117	CB	SER	3180	15.563	-8.523	-3.142	1.00	45.23
ATOM	6118	OG	SER	3180	14.694	-7.799	-2.301	1.00	45.85
ATOM	6119	C	SER	3180	15.589	-6.957	-5.109	1.00	45.73
ATOM	6120	O	SER	3180	15.593	-5.737	-5.290	1.00	45.62
ATOM	6121	N	SER	3181	14.892	-7.796	-5.861	1.00	46.63
ATOM	6122	CA	SER	3181	14.068	-7.312	-6.947	1.00	47.56
ATOM	6123	CB	SER	3181	14.935	-7.013	-8.163	1.00	47.39
ATOM	6124	OG	SER	3181	14.141	-6.509	-9.217	1.00	48.09
ATOM	6125	C	SER	3181	13.012	-8.337	-7.317	1.00	48.28
ATOM	6126	O	SER	3181	12.908	-9.396	-6.700	1.00	48.27
ATOM	6127	N	GLY	3182	12.233	-8.010	-8.338	1.00	49.22
ATOM	6128	CA	GLY	3182	11.183	-8.897	-8.788	1.00	49.41
ATOM	6129	C	GLY	3182	10.032	-8.069	-9.310	1.00	49.66
ATOM	6130	O	GLY	3182	9.958	-6.870	-9.055	1.00	49.58
ATOM	6131	N	THR	3183	9.132	-8.698	-10.051	1.00	49.75
ATOM	6132	CA	THR	3183	7.995	-7.978	-10.580	1.00	49.39

ATOM	6133	CB	THR	3183	8.222	-7.586	-12.045	1.00	49.92
ATOM	6134	OG1	THR	3183	8.834	-8.676	-12.744	1.00	51.32
ATOM	6135	CG2	THR	3183	9.128	-6.367	-12.127	1.00	50.52
ATOM	6136	C	THR	3183	6.710	-8.775	-10.435	1.00	49.32
ATOM	6137	O	THR	3183	6.652	-9.957	-10.766	1.00	49.83
ATOM	6138	N	PRO	3184	5.660	-8.133	-9.905	1.00	49.09
ATOM	6139	CD	PRO	3184	4.331	-8.704	-9.627	1.00	48.77
ATOM	6140	CA	PRO	3184	5.725	-6.733	-9.475	1.00	49.44
ATOM	6141	CB	PRO	3184	4.294	-6.440	-9.027	1.00	48.98
ATOM	6142	CG	PRO	3184	3.802	-7.772	-8.563	1.00	49.44
ATOM	6143	C	PRO	3184	6.748	-6.502	-8.364	1.00	49.66
ATOM	6144	O	PRO	3184	7.232	-7.449	-7.737	1.00	49.77
ATOM	6145	N	GLN	3185	7.094	-5.242	-8.142	1.00	49.60
ATOM	6146	CA	GLN	3185	8.047	-4.893	-7.100	1.00	49.28
ATOM	6147	CB	GLN	3185	8.160	-3.376	-6.994	1.00	50.58
ATOM	6148	CG	GLN	3185	9.280	-2.815	-7.831	1.00	52.24
ATOM	6149	CD	GLN	3185	10.622	-3.206	-7.271	1.00	53.40
ATOM	6150	OE1	GLN	3185	10.923	-2.911	-6.108	1.00	53.67
ATOM	6151	NE2	GLN	3185	11.440	-3.877	-8.084	1.00	53.76
ATOM	6152	C	GLN	3185	7.591	-5.473	-5.769	1.00	48.11
ATOM	6153	O	GLN	3185	6.472	-5.226	-5.324	1.00	47.56
ATOM	6154	N	PRO	3186	8.455	-6.260	-5.117	1.00	47.13
ATOM	6155	CD	PRO	3186	9.761	-6.733	-5.611	1.00	46.44
ATOM	6156	CA	PRO	3186	8.121	-6.872	-3.830	1.00	46.33
ATOM	6157	CB	PRO	3186	9.160	-7.978	-3.709	1.00	46.35
ATOM	6158	CG	PRO	3186	10.350	-7.379	-4.388	1.00	46.47
ATOM	6159	C	PRO	3186	8.163	-5.894	-2.652	1.00	45.83
ATOM	6160	O	PRO	3186	8.907	-4.917	-2.679	1.00	46.33
ATOM	6161	N	THR	3187	7.352	-6.152	-1.630	1.00	44.81
ATOM	6162	CA	THR	3187	7.326	-5.302	-0.445	1.00	44.15
ATOM	6163	CB	THR	3187	5.988	-5.390	0.315	1.00	44.90
ATOM	6164	OG1	THR	3187	5.677	-6.766	0.578	1.00	44.91
ATOM	6165	CG2	THR	3187	4.870	-4.727	-0.482	1.00	44.43
ATOM	6166	C	THR	3187	8.420	-5.744	0.507	1.00	43.57
ATOM	6167	O	THR	3187	8.958	-6.847	0.381	1.00	43.92
ATOM	6168	N	LEU	3188	8.733	-4.889	1.475	1.00	42.52
ATOM	6169	CA	LEU	3188	9.782	-5.181	2.447	1.00	41.35
ATOM	6170	CB	LEU	3188	11.045	-4.382	2.110	1.00	41.22
ATOM	6171	CG	LEU	3188	12.415	-4.644	2.744	1.00	40.47
ATOM	6172	CD1	LEU	3188	13.088	-3.304	2.899	1.00	40.89
ATOM	6173	CD2	LEU	3188	12.325	-5.333	4.078	1.00	40.46
ATOM	6174	C	LEU	3188	9.351	-4.812	3.859	1.00	40.80
ATOM	6175	O	LEU	3188	9.027	-3.656	4.140	1.00	40.72
ATOM	6176	N	ARG	3189	9.347	-5.799	4.746	1.00	39.63
ATOM	6177	CA	ARG	3189	9.010	-5.563	6.140	1.00	38.01
ATOM	6178	CB	ARG	3189	7.619	-6.110	6.478	1.00	38.85
ATOM	6179	CG	ARG	3189	7.075	-7.111	5.485	1.00	41.44
ATOM	6180	CD	ARG	3189	5.612	-7.430	5.780	1.00	43.59
ATOM	6181	NE	ARG	3189	5.445	-8.177	7.026	1.00	45.68
ATOM	6182	CZ	ARG	3189	5.626	-9.490	7.149	1.00	46.11
ATOM	6183	NH1	ARG	3189	5.977	-10.218	6.099	1.00	46.28
ATOM	6184	NH2	ARG	3189	5.459	-10.076	8.329	1.00	46.31
ATOM	6185	C	ARG	3189	10.078	-6.225	7.005	1.00	36.25
ATOM	6186	O	ARG	3189	10.679	-7.230	6.612	1.00	34.65
ATOM	6187	N	TRP	3190	10.327	-5.646	8.174	1.00	34.53
ATOM	6188	CA	TRP	3190	11.327	-6.187	9.070	1.00	33.43
ATOM	6189	CB	TRP	3190	12.380	-5.121	9.397	1.00	31.57
ATOM	6190	CG	TRP	3190	13.233	-4.691	8.229	1.00	29.17
ATOM	6191	CD2	TRP	3190	14.514	-5.225	7.851	1.00	28.04
ATOM	6192	CE2	TRP	3190	14.935	-4.523	6.695	1.00	27.65
ATOM	6193	CE3	TRP	3190	15.344	-6.225	8.375	1.00	26.62
ATOM	6194	CD1	TRP	3190	12.943	-3.723	7.318	1.00	28.83

ATOM	6195	NE1	TRP	3190	13.960	-3.613	6.394	1.00	28.36
ATOM	6196	CZ2	TRP	3190	16.150	-4.790	6.052	1.00	27.20
ATOM	6197	CZ3	TRP	3190	16.556	-6.491	7.733	1.00	26.92
ATOM	6198	CH2	TRP	3190	16.945	-5.774	6.581	1.00	25.86
ATOM	6199	C	TRP	3190	10.737	-6.727	10.364	1.00	34.15
ATOM	6200	O	TRP	3190	9.735	-6.217	10.870	1.00	34.81
ATOM	6201	N	LEU	3191	11.371	-7.764	10.899	1.00	34.65
ATOM	6202	CA	LEU	3191	10.936	-8.362	12.154	1.00	34.72
ATOM	6203	CB	LEU	3191	10.528	-9.819	11.934	1.00	34.93
ATOM	6204	CG	LEU	3191	9.397	-10.101	10.952	1.00	36.10
ATOM	6205	CD1	LEU	3191	9.245	-11.606	10.823	1.00	35.62
ATOM	6206	CD2	LEU	3191	8.099	-9.453	11.426	1.00	35.50
ATOM	6207	C	LEU	3191	12.086	-8.319	13.159	1.00	34.49
ATOM	6208	O	LEU	3191	13.256	-8.316	12.783	1.00	33.52
ATOM	6209	N	LYS	3192	11.745	-8.277	14.438	1.00	34.77
ATOM	6210	CA	LYS	3192	12.752	-8.285	15.493	1.00	35.48
ATOM	6211	CB	LYS	3192	12.616	-7.041	16.373	1.00	36.47
ATOM	6212	CG	LYS	3192	13.712	-6.851	17.421	1.00	37.73
ATOM	6213	CD	LYS	3192	13.389	-5.629	18.286	1.00	39.11
ATOM	6214	CE	LYS	3192	14.567	-5.163	19.137	1.00	40.36
ATOM	6215	NZ	LYS	3192	15.004	-6.165	20.143	1.00	40.52
ATOM	6216	C	LYS	3192	12.447	-9.540	16.300	1.00	35.55
ATOM	6217	O	LYS	3192	11.407	-9.631	16.950	1.00	35.10
ATOM	6218	N	ASN	3193	13.341	-10.517	16.231	1.00	36.08
ATOM	6219	CA	ASN	3193	13.147	-11.775	16.942	1.00	37.14
ATOM	6220	CB	ASN	3193	13.129	-11.537	18.452	1.00	37.05
ATOM	6221	CG	ASN	3193	14.427	-10.957	18.959	1.00	37.74
ATOM	6222	OD1	ASN	3193	15.513	-11.457	18.647	1.00	37.06
ATOM	6223	ND2	ASN	3193	14.326	-9.895	19.752	1.00	38.55
ATOM	6224	C	ASN	3193	11.860	-12.485	16.514	1.00	37.53
ATOM	6225	O	ASN	3193	11.126	-13.024	17.348	1.00	37.70
ATOM	6226	N	GLY	3194	11.592	-12.465	15.209	1.00	37.86
ATOM	6227	CA	GLY	3194	10.416	-13.122	14.669	1.00	38.13
ATOM	6228	C	GLY	3194	9.088	-12.404	14.813	1.00	39.56
ATOM	6229	O	GLY	3194	8.095	-12.814	14.206	1.00	39.58
ATOM	6230	N	LYS	3195	9.048	-11.341	15.607	1.00	40.40
ATOM	6231	CA	LYS	3195	7.808	-10.599	15.805	1.00	41.58
ATOM	6232	CB	LYS	3195	7.670	-10.217	17.275	1.00	43.58
ATOM	6233	CG	LYS	3195	8.021	-11.326	18.251	1.00	45.54
ATOM	6234	CD	LYS	3195	7.095	-12.522	18.105	1.00	47.43
ATOM	6235	CE	LYS	3195	7.432	-13.558	19.160	1.00	48.54
ATOM	6236	NZ	LYS	3195	7.577	-12.896	20.493	1.00	49.21
ATOM	6237	C	LYS	3195	7.761	-9.329	14.966	1.00	41.57
ATOM	6238	O	LYS	3195	8.744	-8.946	14.341	1.00	41.99
ATOM	6239	N	GLU	3196	6.613	-8.670	14.960	1.00	41.81
ATOM	6240	CA	GLU	3196	6.473	-7.436	14.209	1.00	42.49
ATOM	6241	CB	GLU	3196	5.030	-6.945	14.238	1.00	43.66
ATOM	6242	CG	GLU	3196	4.815	-5.725	13.359	1.00	45.79
ATOM	6243	CD	GLU	3196	3.533	-4.988	13.669	1.00	47.22
ATOM	6244	OE1	GLU	3196	3.182	-4.081	12.885	1.00	48.89
ATOM	6245	OE2	GLU	3196	2.884	-5.301	14.694	1.00	47.38
ATOM	6246	C	GLU	3196	7.360	-6.379	14.859	1.00	42.26
ATOM	6247	O	GLU	3196	7.479	-6.329	16.079	1.00	42.25
ATOM	6248	N	PHE	3197	7.966	-5.523	14.044	1.00	41.72
ATOM	6249	CA	PHE	3197	8.844	-4.478	14.560	1.00	40.76
ATOM	6250	CB	PHE	3197	10.252	-4.686	13.984	1.00	39.76
ATOM	6251	CG	PHE	3197	11.335	-3.881	14.662	1.00	38.89
ATOM	6252	CD1	PHE	3197	11.335	-3.688	16.043	1.00	38.85
ATOM	6253	CD2	PHE	3197	12.385	-3.347	13.914	1.00	38.27
ATOM	6254	CE1	PHE	3197	12.366	-2.973	16.672	1.00	37.34
ATOM	6255	CE2	PHE	3197	13.424	-2.630	14.536	1.00	38.68
ATOM	6256	CZ	PHE	3197	13.409	-2.444	15.919	1.00	37.81

ATOM	6257	C	PHE	3197	8.294	-3.108	14.182	1.00	40.60
ATOM	6258	O	PHE	3197	8.190	-2.776	13.012	1.00	40.35
ATOM	6259	N	LYS	3198	7.918	-2.321	15.181	1.00	41.31
ATOM	6260	CA	LYS	3198	7.390	-0.982	14.934	1.00	42.03
ATOM	6261	CB	LYS	3198	6.026	-0.787	15.609	1.00	43.37
ATOM	6262	CG	LYS	3198	4.866	-1.536	14.974	1.00	44.87
ATOM	6263	CD	LYS	3198	3.558	-1.226	15.704	1.00	46.03
ATOM	6264	CE	LYS	3198	2.467	-2.238	15.356	1.00	46.93
ATOM	6265	NZ	LYS	3198	1.198	-1.998	16.109	1.00	47.00
ATOM	6266	C	LYS	3198	8.353	0.055	15.483	1.00	41.33
ATOM	6267	O	LYS	3198	8.953	-0.142	16.535	1.00	41.31
ATOM	6268	N	PRO	3199	8.505	1.181	14.778	1.00	40.99
ATOM	6269	CD	PRO	3199	7.770	1.579	13.571	1.00	41.26
ATOM	6270	CA	PRO	3199	9.407	2.251	15.210	1.00	40.86
ATOM	6271	CB	PRO	3199	9.091	3.393	14.240	1.00	41.01
ATOM	6272	CG	PRO	3199	7.713	3.071	13.739	1.00	41.45
ATOM	6273	C	PRO	3199	9.250	2.647	16.673	1.00	40.59
ATOM	6274	O	PRO	3199	10.213	3.048	17.311	1.00	40.53
ATOM	6275	N	ASP	3200	8.053	2.523	17.226	1.00	41.07
ATOM	6276	CA	ASP	3200	7.914	2.886	18.626	1.00	41.63
ATOM	6277	CB	ASP	3200	6.474	3.248	18.970	1.00	43.48
ATOM	6278	CG	ASP	3200	6.150	4.673	18.575	1.00	46.03
ATOM	6279	OD1	ASP	3200	5.880	4.927	17.375	1.00	47.86
ATOM	6280	OD2	ASP	3200	6.203	5.550	19.463	1.00	47.33
ATOM	6281	C	ASP	3200	8.465	1.849	19.591	1.00	40.73
ATOM	6282	O	ASP	3200	8.395	2.021	20.807	1.00	40.30
ATOM	6283	N	HIS	3201	9.040	0.782	19.052	1.00	39.81
ATOM	6284	CA	HIS	3201	9.625	-0.239	19.906	1.00	39.26
ATOM	6285	CB	HIS	3201	9.797	-1.562	19.167	1.00	39.84
ATOM	6286	CG	HIS	3201	8.508	-2.254	18.868	1.00	40.22
ATOM	6287	CD2	HIS	3201	8.210	-3.247	17.999	1.00	39.97
ATOM	6288	ND1	HIS	3201	7.329	-1.932	19.505	1.00	40.01
ATOM	6289	CE1	HIS	3201	6.358	-2.695	19.036	1.00	40.19
ATOM	6290	NE2	HIS	3201	6.867	-3.500	18.121	1.00	40.73
ATOM	6291	C	HIS	3201	10.978	0.192	20.465	1.00	39.03
ATOM	6292	O	HIS	3201	11.534	-0.475	21.333	1.00	38.04
ATOM	6293	N	ARG	3202	11.523	1.290	19.957	1.00	38.42
ATOM	6294	CA	ARG	3202	12.788	1.775	20.478	1.00	37.66
ATOM	6295	CB	ARG	3202	13.979	1.192	19.693	1.00	37.22
ATOM	6296	CG	ARG	3202	14.136	1.692	18.271	1.00	37.18
ATOM	6297	CD	ARG	3202	15.197	0.897	17.509	1.00	36.43
ATOM	6298	NE	ARG	3202	16.549	1.048	18.057	1.00	35.84
ATOM	6299	CZ	ARG	3202	17.309	2.138	17.929	1.00	34.55
ATOM	6300	NH1	ARG	3202	16.867	3.201	17.265	1.00	33.05
ATOM	6301	NH2	ARG	3202	18.520	2.162	18.469	1.00	32.83
ATOM	6302	C	ARG	3202	12.791	3.290	20.435	1.00	38.19
ATOM	6303	O	ARG	3202	12.181	3.903	19.558	1.00	38.31
ATOM	6304	N	ILE	3203	13.453	3.891	21.412	1.00	38.58
ATOM	6305	CA	ILE	3203	13.547	5.333	21.486	1.00	39.83
ATOM	6306	CB	ILE	3203	14.358	5.731	22.720	1.00	40.59
ATOM	6307	CG2	ILE	3203	15.647	4.903	22.782	1.00	41.46
ATOM	6308	CG1	ILE	3203	14.650	7.225	22.669	1.00	41.18
ATOM	6309	CD1	ILE	3203	15.454	7.703	23.816	1.00	42.07
ATOM	6310	C	ILE	3203	14.237	5.850	20.218	1.00	40.01
ATOM	6311	O	ILE	3203	15.319	5.391	19.857	1.00	39.70
ATOM	6312	N	GLY	3204	13.609	6.805	19.544	1.00	40.57
ATOM	6313	CA	GLY	3204	14.187	7.325	18.317	1.00	40.51
ATOM	6314	C	GLY	3204	13.725	6.535	17.098	1.00	40.21
ATOM	6315	O	GLY	3204	13.913	6.958	15.956	1.00	39.93
ATOM	6316	N	GLY	3205	13.116	5.380	17.345	1.00	40.06
ATOM	6317	CA	GLY	3205	12.635	4.553	16.259	1.00	39.84
ATOM	6318	C	GLY	3205	13.723	4.129	15.296	1.00	39.75

ATOM	6319	O	GLY	3205	14.897	4.051	15.657	1.00	39.35
ATOM	6320	N	TYR	3206	13.320	3.860	14.058	1.00	39.43
ATOM	6321	CA	TYR	3206	14.240	3.429	13.022	1.00	39.47
ATOM	6322	CB	TYR	3206	14.310	1.895	13.023	1.00	39.17
ATOM	6323	CG	TYR	3206	12.997	1.209	12.697	1.00	39.15
ATOM	6324	CD1	TYR	3206	12.440	1.303	11.419	1.00	39.17
ATOM	6325	CE1	TYR	3206	11.226	0.707	11.113	1.00	39.59
ATOM	6326	CD2	TYR	3206	12.298	0.486	13.670	1.00	39.58
ATOM	6327	CE2	TYR	3206	11.065	-0.124	13.372	1.00	39.98
ATOM	6328	CZ	TYR	3206	10.536	-0.004	12.084	1.00	40.25
ATOM	6329	OH	TYR	3206	9.319	-0.576	11.753	1.00	40.60
ATOM	6330	C	TYR	3206	13.753	3.937	11.667	1.00	39.99
ATOM	6331	O	TYR	3206	12.625	4.406	11.547	1.00	39.69
ATOM	6332	N	LYS	3207	14.595	3.846	10.646	1.00	40.79
ATOM	6333	CA	LYS	3207	14.190	4.293	9.327	1.00	42.17
ATOM	6334	CB	LYS	3207	14.907	5.593	8.953	1.00	43.85
ATOM	6335	CG	LYS	3207	14.332	6.762	9.745	1.00	46.38
ATOM	6336	CD	LYS	3207	14.807	8.122	9.287	1.00	48.03
ATOM	6337	CE	LYS	3207	13.873	9.190	9.850	1.00	48.88
ATOM	6338	NZ	LYS	3207	14.296	10.584	9.527	1.00	50.45
ATOM	6339	C	LYS	3207	14.383	3.229	8.268	1.00	42.26
ATOM	6340	O	LYS	3207	15.420	2.576	8.196	1.00	42.41
ATOM	6341	N	VAL	3208	13.347	3.044	7.462	1.00	42.60
ATOM	6342	CA	VAL	3208	13.368	2.056	6.404	1.00	42.75
ATOM	6343	CB	VAL	3208	12.111	1.171	6.467	1.00	41.86
ATOM	6344	CG1	VAL	3208	12.039	0.270	5.251	1.00	42.36
ATOM	6345	CG2	VAL	3208	12.137	0.344	7.728	1.00	42.06
ATOM	6346	C	VAL	3208	13.401	2.758	5.060	1.00	43.13
ATOM	6347	O	VAL	3208	12.434	3.403	4.682	1.00	43.20
ATOM	6348	N	ARG	3209	14.521	2.661	4.352	1.00	43.70
ATOM	6349	CA	ARG	3209	14.608	3.268	3.033	1.00	44.54
ATOM	6350	CB	ARG	3209	15.973	3.905	2.791	1.00	46.46
ATOM	6351	CG	ARG	3209	16.218	4.320	1.332	1.00	49.71
ATOM	6352	CD	ARG	3209	15.176	5.314	0.763	1.00	52.07
ATOM	6353	NE	ARG	3209	13.801	4.795	0.746	1.00	53.65
ATOM	6354	CZ	ARG	3209	12.835	5.238	-0.062	1.00	53.61
ATOM	6355	NH1	ARG	3209	13.087	6.206	-0.936	1.00	53.36
ATOM	6356	NH2	ARG	3209	11.612	4.728	0.018	1.00	52.96
ATOM	6357	C	ARG	3209	14.386	2.150	2.036	1.00	44.29
ATOM	6358	O	ARG	3209	15.274	1.326	1.797	1.00	44.72
ATOM	6359	N	TYR	3210	13.195	2.120	1.452	1.00	43.42
ATOM	6360	CA	TYR	3210	12.844	1.081	0.495	1.00	42.95
ATOM	6361	CB	TYR	3210	11.393	1.239	0.050	1.00	43.74
ATOM	6362	CG	TYR	3210	10.431	1.048	1.177	1.00	44.73
ATOM	6363	CD1	TYR	3210	10.254	2.042	2.134	1.00	45.66
ATOM	6364	CE1	TYR	3210	9.468	1.827	3.254	1.00	47.16
ATOM	6365	CD2	TYR	3210	9.785	-0.171	1.359	1.00	45.97
ATOM	6366	CE2	TYR	3210	8.995	-0.405	2.477	1.00	46.88
ATOM	6367	CZ	TYR	3210	8.846	0.595	3.423	1.00	47.53
ATOM	6368	OH	TYR	3210	8.113	0.349	4.564	1.00	49.31
ATOM	6369	C	TYR	3210	13.716	1.041	-0.733	1.00	42.28
ATOM	6370	O	TYR	3210	13.968	-0.027	-1.286	1.00	42.12
ATOM	6371	N	ALA	3211	14.167	2.204	-1.173	1.00	41.86
ATOM	6372	CA	ALA	3211	14.992	2.267	-2.368	1.00	41.16
ATOM	6373	CB	ALA	3211	15.335	3.706	-2.680	1.00	41.07
ATOM	6374	C	ALA	3211	16.260	1.448	-2.205	1.00	40.97
ATOM	6375	O	ALA	3211	16.771	0.885	-3.169	1.00	41.36
ATOM	6376	N	THR	3212	16.760	1.375	-0.977	1.00	40.42
ATOM	6377	CA	THR	3212	17.986	0.637	-0.711	1.00	39.72
ATOM	6378	CB	THR	3212	18.996	1.527	0.053	1.00	40.40
ATOM	6379	OG1	THR	3212	18.385	2.033	1.251	1.00	40.29
ATOM	6380	CG2	THR	3212	19.437	2.696	-0.826	1.00	39.94

ATOM	6381	C	THR	3212	17.736	-0.640	0.080	1.00	38.77
ATOM	6382	O	THR	3212	18.675	-1.279	0.552	1.00	38.32
ATOM	6383	N	TRP	3213	16.467	-1.004	0.223	1.00	38.07
ATOM	6384	CA	TRP	3213	16.095	-2.208	0.955	1.00	37.69
ATOM	6385	CB	TRP	3213	16.415	-3.445	0.113	1.00	38.71
ATOM	6386	CG	TRP	3213	15.801	-3.410	-1.260	1.00	39.88
ATOM	6387	CD2	TRP	3213	14.547	-3.981	-1.644	1.00	39.78
ATOM	6388	CE2	TRP	3213	14.338	-3.659	-3.004	1.00	39.97
ATOM	6389	CE3	TRP	3213	13.576	-4.733	-0.968	1.00	39.38
ATOM	6390	CD1	TRP	3213	16.294	-2.780	-2.379	1.00	39.94
ATOM	6391	NE1	TRP	3213	15.418	-2.926	-3.429	1.00	39.80
ATOM	6392	CZ2	TRP	3213	13.195	-4.066	-3.701	1.00	40.13
ATOM	6393	CZ3	TRP	3213	12.441	-5.137	-1.660	1.00	39.88
ATOM	6394	CH2	TRP	3213	12.260	-4.803	-3.014	1.00	39.80
ATOM	6395	C	TRP	3213	16.840	-2.281	2.282	1.00	37.23
ATOM	6396	O	TRP	3213	17.426	-3.308	2.627	1.00	36.36
ATOM	6397	N	SER	3214	16.812	-1.186	3.030	1.00	36.58
ATOM	6398	CA	SER	3214	17.522	-1.163	4.293	1.00	36.48
ATOM	6399	CB	SER	3214	18.835	-0.406	4.124	1.00	36.91
ATOM	6400	OG	SER	3214	18.589	0.858	3.540	1.00	38.53
ATOM	6401	C	SER	3214	16.736	-0.587	5.454	1.00	35.52
ATOM	6402	O	SER	3214	15.722	0.096	5.277	1.00	34.85
ATOM	6403	N	ILE	3215	17.215	-0.913	6.647	1.00	34.36
ATOM	6404	CA	ILE	3215	16.636	-0.443	7.888	1.00	33.91
ATOM	6405	CB	ILE	3215	16.002	-1.599	8.670	1.00	33.92
ATOM	6406	CG2	ILE	3215	17.015	-2.680	8.920	1.00	34.47
ATOM	6407	CG1	ILE	3215	15.427	-1.077	9.979	1.00	34.07
ATOM	6408	CD1	ILE	3215	14.706	-2.131	10.780	1.00	34.38
ATOM	6409	C	ILE	3215	17.806	0.151	8.661	1.00	33.13
ATOM	6410	O	ILE	3215	18.872	-0.454	8.742	1.00	32.83
ATOM	6411	N	ILE	3216	17.616	1.352	9.194	1.00	32.76
ATOM	6412	CA	ILE	3216	18.667	2.036	9.936	1.00	32.20
ATOM	6413	CB	ILE	3216	18.963	3.429	9.342	1.00	32.44
ATOM	6414	CG2	ILE	3216	20.110	4.086	10.088	1.00	31.04
ATOM	6415	CG1	ILE	3216	19.286	3.308	7.857	1.00	33.28
ATOM	6416	CD1	ILE	3216	19.352	4.649	7.157	1.00	33.75
ATOM	6417	C	ILE	3216	18.257	2.265	11.377	1.00	31.96
ATOM	6418	O	ILE	3216	17.158	2.754	11.638	1.00	31.00
ATOM	6419	N	MSE	3217	19.138	1.903	12.306	1.00	31.79
ATOM	6420	CA	MSE	3217	18.880	2.136	13.716	1.00	31.79
ATOM	6421	CB	MSE	3217	18.840	0.820	14.508	1.00	31.42
ATOM	6422	CG	MSE	3217	17.603	-0.064	14.255	1.00	31.42
ATOM	6423	SE	MSE	3217	17.504	-1.556	15.341	1.00	31.78
ATOM	6424	CE	MSE	3217	18.604	-2.673	14.447	1.00	30.54
ATOM	6425	C	MSE	3217	20.021	3.022	14.207	1.00	32.32
ATOM	6426	O	MSE	3217	21.197	2.661	14.114	1.00	32.43
ATOM	6427	N	ASP	3218	19.664	4.194	14.713	1.00	32.71
ATOM	6428	CA	ASP	3218	20.628	5.147	15.229	1.00	33.09
ATOM	6429	CB	ASP	3218	20.022	6.544	15.123	1.00	35.67
ATOM	6430	CG	ASP	3218	21.063	7.625	15.018	1.00	38.30
ATOM	6431	OD1	ASP	3218	20.843	8.702	15.618	1.00	39.16
ATOM	6432	OD2	ASP	3218	22.089	7.401	14.327	1.00	40.02
ATOM	6433	C	ASP	3218	20.927	4.813	16.696	1.00	32.45
ATOM	6434	O	ASP	3218	20.043	4.380	17.417	1.00	32.49
ATOM	6435	N	SER	3219	22.174	5.014	17.125	1.00	32.52
ATOM	6436	CA	SER	3219	22.611	4.753	18.505	1.00	31.30
ATOM	6437	CB	SER	3219	22.279	5.934	19.416	1.00	30.55
ATOM	6438	OG	SER	3219	22.987	7.080	19.009	1.00	31.34
ATOM	6439	C	SER	3219	22.046	3.496	19.143	1.00	30.80
ATOM	6440	O	SER	3219	21.242	3.578	20.073	1.00	31.63
ATOM	6441	N	VAL	3220	22.473	2.335	18.663	1.00	29.85
ATOM	6442	CA	VAL	3220	21.990	1.084	19.223	1.00	29.07

ATOM	6443	CB	VAL	3220	22.536	-0.142	18.423	1.00	29.06
ATOM	6444	CG1	VAL	3220	22.155	-0.004	16.960	1.00	28.03
ATOM	6445	CG2	VAL	3220	24.050	-0.255	18.571	1.00	28.64
ATOM	6446	C	VAL	3220	22.375	0.966	20.696	1.00	28.95
ATOM	6447	O	VAL	3220	23.376	1.526	21.136	1.00	29.63
ATOM	6448	N	VAL	3221	21.562	0.236	21.447	1.00	28.67
ATOM	6449	CA	VAL	3221	21.777	0.032	22.868	1.00	28.31
ATOM	6450	CB	VAL	3221	20.786	0.926	23.649	1.00	29.03
ATOM	6451	CG1	VAL	3221	21.003	2.391	23.252	1.00	27.53
ATOM	6452	CG2	VAL	3221	19.332	0.524	23.321	1.00	27.80
ATOM	6453	C	VAL	3221	21.545	-1.456	23.157	1.00	28.57
ATOM	6454	O	VAL	3221	20.952	-2.171	22.343	1.00	29.31
ATOM	6455	N	PRO	3222	21.989	-1.940	24.323	1.00	28.46
ATOM	6456	CD	PRO	3222	22.521	-1.169	25.462	1.00	28.30
ATOM	6457	CA	PRO	3222	21.817	-3.356	24.670	1.00	28.18
ATOM	6458	CB	PRO	3222	22.143	-3.383	26.161	1.00	28.32
ATOM	6459	CG	PRO	3222	23.155	-2.251	26.308	1.00	28.56
ATOM	6460	C	PRO	3222	20.442	-3.944	24.353	1.00	28.22
ATOM	6461	O	PRO	3222	20.349	-5.090	23.907	1.00	29.25
ATOM	6462	N	SER	3223	19.379	-3.173	24.566	1.00	28.05
ATOM	6463	CA	SER	3223	18.037	-3.695	24.304	1.00	28.14
ATOM	6464	CB	SER	3223	16.969	-2.830	24.990	1.00	26.52
ATOM	6465	OG	SER	3223	17.035	-1.482	24.585	1.00	24.97
ATOM	6466	C	SER	3223	17.743	-3.862	22.811	1.00	28.85
ATOM	6467	O	SER	3223	16.705	-4.400	22.429	1.00	29.59
ATOM	6468	N	ASP	3224	18.668	-3.430	21.964	1.00	29.32
ATOM	6469	CA	ASP	3224	18.474	-3.588	20.534	1.00	30.70
ATOM	6470	CB	ASP	3224	19.201	-2.478	19.748	1.00	30.81
ATOM	6471	CG	ASP	3224	18.518	-1.114	19.867	1.00	31.28
ATOM	6472	OD1	ASP	3224	17.272	-1.052	19.900	1.00	31.54
ATOM	6473	OD2	ASP	3224	19.231	-0.093	19.911	1.00	32.22
ATOM	6474	C	ASP	3224	19.002	-4.959	20.107	1.00	31.30
ATOM	6475	O	ASP	3224	18.774	-5.399	18.974	1.00	31.98
ATOM	6476	N	LYS	3225	19.712	-5.629	21.012	1.00	31.00
ATOM	6477	CA	LYS	3225	20.258	-6.952	20.721	1.00	31.82
ATOM	6478	CB	LYS	3225	20.870	-7.565	21.979	1.00	33.14
ATOM	6479	CG	LYS	3225	22.146	-6.921	22.511	1.00	35.17
ATOM	6480	CD	LYS	3225	22.353	-7.411	23.938	1.00	36.39
ATOM	6481	CE	LYS	3225	23.803	-7.394	24.348	1.00	38.28
ATOM	6482	NZ	LYS	3225	24.048	-8.429	25.400	1.00	39.21
ATOM	6483	C	LYS	3225	19.167	-7.903	20.226	1.00	31.85
ATOM	6484	O	LYS	3225	18.058	-7.924	20.763	1.00	31.37
ATOM	6485	N	GLY	3226	19.485	-8.700	19.213	1.00	31.83
ATOM	6486	CA	GLY	3226	18.511	-9.645	18.706	1.00	32.42
ATOM	6487	C	GLY	3226	18.677	-10.012	17.245	1.00	32.68
ATOM	6488	O	GLY	3226	19.642	-9.617	16.592	1.00	33.42
ATOM	6489	N	ASN	3227	17.723	-10.782	16.739	1.00	32.39
ATOM	6490	CA	ASN	3227	17.726	-11.218	15.359	1.00	32.70
ATOM	6491	CB	ASN	3227	17.202	-12.642	15.249	1.00	32.74
ATOM	6492	CG	ASN	3227	18.197	-13.660	15.700	1.00	33.48
ATOM	6493	OD1	ASN	3227	19.352	-13.646	15.281	1.00	33.92
ATOM	6494	ND2	ASN	3227	17.755	-14.574	16.552	1.00	34.71
ATOM	6495	C	ASN	3227	16.810	-10.325	14.554	1.00	33.33
ATOM	6496	O	ASN	3227	15.666	-10.080	14.947	1.00	34.14
ATOM	6497	N	TYR	3228	17.298	-9.846	13.420	1.00	33.10
ATOM	6498	CA	TYR	3228	16.485	-8.997	12.574	1.00	33.07
ATOM	6499	CB	TYR	3228	17.151	-7.632	12.415	1.00	31.91
ATOM	6500	CG	TYR	3228	17.150	-6.855	13.710	1.00	31.75
ATOM	6501	CD1	TYR	3228	18.032	-7.177	14.751	1.00	30.54
ATOM	6502	CE1	TYR	3228	17.987	-6.489	15.965	1.00	30.09
ATOM	6503	CD2	TYR	3228	16.226	-5.829	13.920	1.00	30.93
ATOM	6504	CE2	TYR	3228	16.174	-5.145	15.119	1.00	30.76

ATOM	6505	CZ	TYR	3228	17.056	-5.472	16.140	1.00	30.04
ATOM	6506	OH	TYR	3228	17.004	-4.750	17.308	1.00	29.57
ATOM	6507	C	TYR	3228	16.308	-9.694	11.243	1.00	33.69
ATOM	6508	O	TYR	3228	17.281	-10.017	10.559	1.00	33.68
ATOM	6509	N	THR	3229	15.051	-9.940	10.897	1.00	34.87
ATOM	6510	CA	THR	3229	14.706	-10.631	9.666	1.00	35.84
ATOM	6511	CB	THR	3229	13.782	-11.814	9.947	1.00	35.85
ATOM	6512	OG1	THR	3229	14.371	-12.656	10.942	1.00	36.71
ATOM	6513	CG2	THR	3229	13.541	-12.601	8.688	1.00	34.59
ATOM	6514	C	THR	3229	13.969	-9.731	8.702	1.00	36.90
ATOM	6515	O	THR	3229	13.017	-9.037	9.086	1.00	37.21
ATOM	6516	N	CYS	3230	14.403	-9.740	7.449	1.00	37.26
ATOM	6517	CA	CYS	3230	13.723	-8.938	6.452	1.00	38.82
ATOM	6518	CB	CYS	3230	14.708	-8.190	5.581	1.00	38.93
ATOM	6519	SG	CYS	3230	15.459	-9.286	4.434	1.00	42.17
ATOM	6520	C	CYS	3230	12.932	-9.923	5.610	1.00	39.18
ATOM	6521	O	CYS	3230	13.396	-11.026	5.327	1.00	39.13
ATOM	6522	N	ILE	3231	11.722	-9.530	5.242	1.00	40.09
ATOM	6523	CA	ILE	3231	10.865	-10.382	4.441	1.00	40.96
ATOM	6524	CB	ILE	3231	9.624	-10.821	5.239	1.00	41.31
ATOM	6525	CG2	ILE	3231	8.651	-11.586	4.336	1.00	40.65
ATOM	6526	CG1	ILE	3231	10.075	-11.701	6.412	1.00	41.15
ATOM	6527	CD1	ILE	3231	8.947	-12.218	7.271	1.00	41.25
ATOM	6528	C	ILE	3231	10.457	-9.655	3.174	1.00	42.07
ATOM	6529	O	ILE	3231	9.714	-8.670	3.210	1.00	42.06
ATOM	6530	N	VAL	3232	10.985	-10.142	2.057	1.00	43.27
ATOM	6531	CA	VAL	3232	10.723	-9.573	0.740	1.00	45.00
ATOM	6532	CB	VAL	3232	12.035	-9.474	-0.075	1.00	44.47
ATOM	6533	CG1	VAL	3232	11.764	-8.896	-1.446	1.00	43.83
ATOM	6534	CG2	VAL	3232	13.042	-8.620	0.676	1.00	44.17
ATOM	6535	C	VAL	3232	9.728	-10.472	0.007	1.00	46.56
ATOM	6536	O	VAL	3232	9.997	-11.650	-0.234	1.00	46.12
ATOM	6537	N	GLU	3233	8.583	-9.915	-0.562	1.00	48.54
ATOM	6538	CA	GLU	3233	7.565	-10.717	-1.024	1.00	50.43
ATOM	6539	CB	GLU	3233	6.677	-11.359	0.041	1.00	51.98
ATOM	6540	CG	GLU	3233	6.161	-10.326	1.042	1.00	55.35
ATOM	6541	CD	GLU	3233	5.295	-10.912	2.149	1.00	57.38
ATOM	6542	OE1	GLU	3233	5.142	-10.233	3.200	1.00	58.04
ATOM	6543	OE2	GLU	3233	4.764	-12.035	1.967	1.00	58.23
ATOM	6544	C	GLU	3233	6.671	-9.976	-2.007	1.00	50.42
ATOM	6545	O	GLU	3233	6.478	-8.765	-1.919	1.00	49.95
ATOM	6546	N	ASN	3234	6.134	-10.746	-2.946	1.00	51.30
ATOM	6547	CA	ASN	3234	5.195	-10.265	-3.950	1.00	52.16
ATOM	6548	CB	ASN	3234	5.904	-9.869	-5.253	1.00	51.61
ATOM	6549	CG	ASN	3234	6.478	-11.052	-6.005	1.00	51.46
ATOM	6550	OD1	ASN	3234	6.178	-12.207	-5.706	1.00	50.91
ATOM	6551	ND2	ASN	3234	7.304	-10.764	-7.008	1.00	51.17
ATOM	6552	C	ASN	3234	4.234	-11.432	-4.189	1.00	53.24
ATOM	6553	O	ASN	3234	4.408	-12.514	-3.614	1.00	53.02
ATOM	6554	N	GLU	3235	3.232	-11.224	-5.034	1.00	54.33
ATOM	6555	CA	GLU	3235	2.248	-12.264	-5.309	1.00	55.01
ATOM	6556	CB	GLU	3235	1.263	-11.762	-6.363	1.00	56.23
ATOM	6557	CG	GLU	3235	-0.056	-12.502	-6.368	1.00	59.08
ATOM	6558	CD	GLU	3235	-1.109	-11.820	-7.236	1.00	61.60
ATOM	6559	OE1	GLU	3235	-0.815	-11.540	-8.426	1.00	62.64
ATOM	6560	OE2	GLU	3235	-2.231	-11.566	-6.727	1.00	62.11
ATOM	6561	C	GLU	3235	2.844	-13.611	-5.736	1.00	54.64
ATOM	6562	O	GLU	3235	2.232	-14.655	-5.519	1.00	54.61
ATOM	6563	N	TYR	3236	4.047	-13.595	-6.303	1.00	54.33
ATOM	6564	CA	TYR	3236	4.679	-14.826	-6.776	1.00	53.98
ATOM	6565	CB	TYR	3236	5.366	-14.577	-8.125	1.00	53.88
ATOM	6566	CG	TYR	3236	4.434	-14.113	-9.222	1.00	54.02

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ATOM   6567  CD1 TYR  3236       3.836 -12.854  -9.169  1.00 54.22
ATOM   6568  CE1 TYR  3236       2.954 -12.428 -10.167  1.00 54.42
ATOM   6569  CD2 TYR  3236       4.130 -14.940 -10.304  1.00 54.27
ATOM   6570  CE2 TYR  3236       3.249 -14.523 -11.309  1.00 54.13
ATOM   6571  CZ  TYR  3236       2.666 -13.268 -11.232  1.00 54.13
ATOM   6572  OH  TYR  3236       1.796 -12.853 -12.211  1.00 53.50
ATOM   6573  C   TYR  3236       5.672 -15.516  -5.845  1.00 54.06
ATOM   6574  O   TYR  3236       6.196 -16.581  -6.183  1.00 54.71
ATOM   6575  N   GLY  3237       5.945 -14.933  -4.684  1.00 53.27
ATOM   6576  CA  GLY  3237       6.884 -15.576  -3.782  1.00 51.95
ATOM   6577  C   GLY  3237       7.440 -14.678  -2.700  1.00 51.10
ATOM   6578  O   GLY  3237       7.245 -13.457  -2.720  1.00 50.97
ATOM   6579  N   SER  3238       8.129 -15.287  -1.741  1.00 49.86
ATOM   6580  CA  SER  3238       8.728 -14.529  -0.655  1.00 48.69
ATOM   6581  CB  SER  3238       7.781 -14.430   0.542  1.00 49.49
ATOM   6582  OG  SER  3238       7.695 -15.677   1.206  1.00 51.08
ATOM   6583  C   SER  3238      10.038 -15.140  -0.199  1.00 47.32
ATOM   6584  O   SER  3238      10.171 -16.362  -0.090  1.00 47.51
ATOM   6585  N   ILE  3239      11.008 -14.266   0.047  1.00 45.32
ATOM   6586  CA  ILE  3239      12.317 -14.668   0.525  1.00 42.89
ATOM   6587  CB  ILE  3239      13.422 -14.331  -0.491  1.00 41.39
ATOM   6588  CG2 ILE  3239      13.409 -15.345  -1.623  1.00 40.63
ATOM   6589  CG1 ILE  3239      13.241 -12.903  -1.006  1.00 39.72
ATOM   6590  CD1 ILE  3239      14.288 -12.478  -1.999  1.00 37.79
ATOM   6591  C   ILE  3239      12.591 -13.928   1.830  1.00 42.78
ATOM   6592  O   ILE  3239      11.852 -13.013   2.205  1.00 41.85
ATOM   6593  N   ASN  3240      13.644 -14.333   2.528  1.00 42.42
ATOM   6594  CA  ASN  3240      13.997 -13.694   3.783  1.00 42.52
ATOM   6595  CB  ASN  3240      13.049 -14.147   4.894  1.00 42.77
ATOM   6596  CG  ASN  3240      13.146 -15.631   5.179  1.00 43.44
ATOM   6597  OD1 ASN  3240      14.125 -16.106   5.751  1.00 43.29
ATOM   6598  ND2 ASN  3240      12.122 -16.376   4.774  1.00 44.87
ATOM   6599  C   ASN  3240      15.429 -13.973   4.195  1.00 42.38
ATOM   6600  O   ASN  3240      16.064 -14.905   3.710  1.00 42.45
ATOM   6601  N   HIS  3241      15.933 -13.147   5.099  1.00 41.92
ATOM   6602  CA  HIS  3241      17.289 -13.296   5.594  1.00 41.59
ATOM   6603  CB  HIS  3241      18.266 -12.509   4.720  1.00 42.38
ATOM   6604  CG  HIS  3241      19.704 -12.737   5.065  1.00 43.96
ATOM   6605  CD2 HIS  3241      20.623 -11.925   5.643  1.00 44.63
ATOM   6606  ND1 HIS  3241      20.350 -13.929   4.816  1.00 44.28
ATOM   6607  CE1 HIS  3241      21.604 -13.842   5.223  1.00 44.58
ATOM   6608  NE2 HIS  3241      21.796 -12.637   5.730  1.00 45.28
ATOM   6609  C   HIS  3241      17.289 -12.747   7.010  1.00 41.03
ATOM   6610  O   HIS  3241      16.503 -11.847   7.335  1.00 41.15
ATOM   6611  N   THR  3242      18.157 -13.284   7.857  1.00 39.70
ATOM   6612  CA  THR  3242      18.211 -12.825   9.231  1.00 38.20
ATOM   6613  CB  THR  3242      17.636 -13.883  10.178  1.00 38.08
ATOM   6614  OG1 THR  3242      16.216 -13.937  10.004  1.00 38.24
ATOM   6615  CG2 THR  3242      17.945 -13.542  11.628  1.00 38.20
ATOM   6616  C   THR  3242      19.603 -12.457   9.680  1.00 37.60
ATOM   6617  O   THR  3242      20.553 -13.211   9.482  1.00 37.52
ATOM   6618  N   TYR  3243      19.719 -11.275  10.274  1.00 36.75
ATOM   6619  CA  TYR  3243      21.001 -10.806  10.785  1.00 36.59
ATOM   6620  CB  TYR  3243      21.287  -9.364  10.350  1.00 36.71
ATOM   6621  CG  TYR  3243      21.472  -9.163   8.871  1.00 37.81
ATOM   6622  CD1 TYR  3243      20.413  -8.753   8.059  1.00 38.45
ATOM   6623  CE1 TYR  3243      20.594  -8.551   6.689  1.00 39.09
ATOM   6624  CD2 TYR  3243      22.715  -9.366   8.277  1.00 38.84
ATOM   6625  CE2 TYR  3243      22.908  -9.167   6.914  1.00 38.99
ATOM   6626  CZ  TYR  3243      21.849  -8.760   6.127  1.00 39.51
ATOM   6627  OH  TYR  3243      22.057  -8.561   4.781  1.00 40.19
ATOM   6628  C   TYR  3243      20.948 -10.843  12.307  1.00 36.00
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ATOM	6629	O	TYR	3243	19.876	-10.712	12.908	1.00	35.18
ATOM	6630	N	GLN	3244	22.096	-11.044	12.936	1.00	36.03
ATOM	6631	CA	GLN	3244	22.119	-11.035	14.388	1.00	36.34
ATOM	6632	CB	GLN	3244	22.862	-12.240	14.966	1.00	37.58
ATOM	6633	CG	GLN	3244	22.184	-12.777	16.237	1.00	40.73
ATOM	6634	CD	GLN	3244	23.152	-13.339	17.278	1.00	41.62
ATOM	6635	OE1	GLN	3244	24.039	-14.134	16.957	1.00	41.89
ATOM	6636	NE2	GLN	3244	22.970	-12.932	18.535	1.00	41.98
ATOM	6637	C	GLN	3244	22.826	-9.764	14.817	1.00	35.47
ATOM	6638	O	GLN	3244	23.921	-9.451	14.324	1.00	34.99
ATOM	6639	N	LEU	3245	22.186	-9.014	15.708	1.00	34.40
ATOM	6640	CA	LEU	3245	22.788	-7.790	16.205	1.00	33.17
ATOM	6641	CB	LEU	3245	21.823	-6.609	16.105	1.00	32.28
ATOM	6642	CG	LEU	3245	22.317	-5.331	16.806	1.00	30.60
ATOM	6643	CD1	LEU	3245	23.708	-4.973	16.343	1.00	28.60
ATOM	6644	CD2	LEU	3245	21.351	-4.201	16.532	1.00	29.97
ATOM	6645	C	LEU	3245	23.220	-7.966	17.646	1.00	33.00
ATOM	6646	O	LEU	3245	22.432	-8.353	18.507	1.00	32.93
ATOM	6647	N	ASP	3246	24.489	-7.676	17.890	1.00	32.97
ATOM	6648	CA	ASP	3246	25.057	-7.773	19.212	1.00	32.59
ATOM	6649	CB	ASP	3246	26.096	-8.880	19.215	1.00	32.71
ATOM	6650	CG	ASP	3246	26.745	-9.053	20.547	1.00	33.85
ATOM	6651	OD1	ASP	3246	27.729	-9.818	20.608	1.00	35.79
ATOM	6652	OD2	ASP	3246	26.283	-8.435	21.531	1.00	33.91
ATOM	6653	C	ASP	3246	25.692	-6.420	19.565	1.00	32.97
ATOM	6654	O	ASP	3246	26.531	-5.896	18.825	1.00	32.97
ATOM	6655	N	VAL	3247	25.273	-5.853	20.692	1.00	32.99
ATOM	6656	CA	VAL	3247	25.784	-4.572	21.156	1.00	32.92
ATOM	6657	CB	VAL	3247	24.627	-3.637	21.551	1.00	33.23
ATOM	6658	CG1	VAL	3247	25.172	-2.328	22.105	1.00	33.01
ATOM	6659	CG2	VAL	3247	23.735	-3.384	20.349	1.00	33.02
ATOM	6660	C	VAL	3247	26.653	-4.806	22.375	1.00	33.25
ATOM	6661	O	VAL	3247	26.208	-5.412	23.344	1.00	33.29
ATOM	6662	N	VAL	3248	27.888	-4.315	22.331	1.00	34.03
ATOM	6663	CA	VAL	3248	28.823	-4.501	23.432	1.00	34.72
ATOM	6664	CB	VAL	3248	30.162	-5.086	22.924	1.00	35.28
ATOM	6665	CG1	VAL	3248	30.985	-5.607	24.084	1.00	35.94
ATOM	6666	CG2	VAL	3248	29.905	-6.181	21.916	1.00	36.31
ATOM	6667	C	VAL	3248	29.128	-3.217	24.184	1.00	36.05
ATOM	6668	O	VAL	3248	29.472	-2.182	23.589	1.00	37.36
ATOM	6669	N	GLU	3249	29.001	-3.308	25.502	1.00	36.96
ATOM	6670	CA	GLU	3249	29.289	-2.187	26.379	1.00	38.35
ATOM	6671	CB	GLU	3249	28.322	-2.162	27.554	1.00	39.73
ATOM	6672	CG	GLU	3249	26.936	-1.720	27.193	1.00	42.89
ATOM	6673	CD	GLU	3249	26.049	-1.596	28.413	1.00	45.25
ATOM	6674	OE1	GLU	3249	25.453	-2.623	28.836	1.00	46.40
ATOM	6675	OE2	GLU	3249	25.966	-0.466	28.952	1.00	45.81
ATOM	6676	C	GLU	3249	30.697	-2.365	26.914	1.00	37.90
ATOM	6677	O	GLU	3249	31.119	-3.490	27.203	1.00	38.59
ATOM	6678	N	ARG	3250	31.421	-1.260	27.044	1.00	36.69
ATOM	6679	CA	ARG	3250	32.775	-1.309	27.566	1.00	35.95
ATOM	6680	CB	ARG	3250	33.735	-0.613	26.594	1.00	35.52
ATOM	6681	CG	ARG	3250	33.617	-1.078	25.141	1.00	35.29
ATOM	6682	CD	ARG	3250	33.538	-2.593	25.015	1.00	34.23
ATOM	6683	NE	ARG	3250	34.751	-3.261	25.465	1.00	34.23
ATOM	6684	CZ	ARG	3250	35.884	-3.320	24.772	1.00	34.05
ATOM	6685	NH1	ARG	3250	35.969	-2.751	23.578	1.00	33.69
ATOM	6686	NH2	ARG	3250	36.936	-3.952	25.279	1.00	33.15
ATOM	6687	C	ARG	3250	32.846	-0.647	28.952	1.00	35.63
ATOM	6688	O	ARG	3250	31.973	0.140	29.320	1.00	35.45
ATOM	6689	N	SER	3251	33.869	-1.001	29.726	1.00	35.32
ATOM	6690	CA	SER	3251	34.083	-0.434	31.054	1.00	34.98

ATOM	6691	CB	SER	3251	34.042	-1.521	32.128	1.00	34.57
ATOM	6692	OG	SER	3251	32.789	-2.183	32.126	1.00	34.88
ATOM	6693	C	SER	3251	35.463	0.195	31.006	1.00	35.02
ATOM	6694	O	SER	3251	36.435	-0.353	31.520	1.00	35.27
ATOM	6695	N	PRO	3252	35.567	1.356	30.360	1.00	34.81
ATOM	6696	CD	PRO	3252	34.491	2.166	29.770	1.00	34.70
ATOM	6697	CA	PRO	3252	36.844	2.042	30.250	1.00	34.80
ATOM	6698	CB	PRO	3252	36.551	3.135	29.240	1.00	34.74
ATOM	6699	CG	PRO	3252	35.164	3.509	29.599	1.00	34.75
ATOM	6700	C	PRO	3252	37.268	2.594	31.588	1.00	35.12
ATOM	6701	O	PRO	3252	37.346	3.808	31.775	1.00	36.00
ATOM	6702	N	HIS	3253	37.520	1.703	32.534	1.00	35.07
ATOM	6703	CA	HIS	3253	37.964	2.153	33.834	1.00	34.46
ATOM	6704	CB	HIS	3253	36.783	2.304	34.801	1.00	36.56
ATOM	6705	CG	HIS	3253	36.034	1.035	35.060	1.00	39.05
ATOM	6706	CD2	HIS	3253	34.704	0.767	35.044	1.00	39.72
ATOM	6707	ND1	HIS	3253	36.657	-0.137	35.441	1.00	40.11
ATOM	6708	CE1	HIS	3253	35.744	-1.070	35.650	1.00	40.59
ATOM	6709	NE2	HIS	3253	34.551	-0.548	35.418	1.00	40.67
ATOM	6710	C	HIS	3253	39.019	1.220	34.403	1.00	33.65
ATOM	6711	O	HIS	3253	39.206	0.094	33.923	1.00	33.50
ATOM	6712	N	ARG	3254	39.732	1.705	35.413	1.00	32.22
ATOM	6713	CA	ARG	3254	40.767	0.917	36.048	1.00	30.61
ATOM	6714	CB	ARG	3254	41.432	1.728	37.150	1.00	31.85
ATOM	6715	CG	ARG	3254	40.509	2.035	38.315	1.00	32.68
ATOM	6716	CD	ARG	3254	41.134	3.040	39.255	1.00	34.43
ATOM	6717	NE	ARG	3254	40.445	3.042	40.540	1.00	38.01
ATOM	6718	CZ	ARG	3254	40.942	3.585	41.646	1.00	39.20
ATOM	6719	NH1	ARG	3254	42.132	4.176	41.609	1.00	40.80
ATOM	6720	NH2	ARG	3254	40.268	3.521	42.790	1.00	39.21
ATOM	6721	C	ARG	3254	40.102	-0.312	36.647	1.00	29.38
ATOM	6722	O	ARG	3254	38.877	-0.348	36.791	1.00	28.41
ATOM	6723	N	PRO	3255	40.897	-1.334	37.003	1.00	28.11
ATOM	6724	CD	PRO	3255	42.358	-1.439	36.872	1.00	28.32
ATOM	6725	CA	PRO	3255	40.337	-2.557	37.592	1.00	27.63
ATOM	6726	CB	PRO	3255	41.570	-3.422	37.836	1.00	27.34
ATOM	6727	CG	PRO	3255	42.556	-2.923	36.804	1.00	28.33
ATOM	6728	C	PRO	3255	39.598	-2.268	38.895	1.00	27.91
ATOM	6729	O	PRO	3255	39.947	-1.342	39.636	1.00	27.84
ATOM	6730	N	ILE	3256	38.579	-3.070	39.174	1.00	27.28
ATOM	6731	CA	ILE	3256	37.805	-2.912	40.391	1.00	27.33
ATOM	6732	CB	ILE	3256	36.329	-2.617	40.059	1.00	27.44
ATOM	6733	CG2	ILE	3256	35.467	-2.705	41.306	1.00	26.97
ATOM	6734	CG1	ILE	3256	36.229	-1.221	39.445	1.00	27.54
ATOM	6735	CD1	ILE	3256	34.839	-0.871	38.967	1.00	28.61
ATOM	6736	C	ILE	3256	37.933	-4.182	41.219	1.00	27.59
ATOM	6737	O	ILE	3256	37.724	-5.284	40.715	1.00	28.86
ATOM	6738	N	LEU	3257	38.302	-4.026	42.485	1.00	27.76
ATOM	6739	CA	LEU	3257	38.474	-5.167	43.372	1.00	28.67
ATOM	6740	CB	LEU	3257	39.734	-4.983	44.232	1.00	28.32
ATOM	6741	CG	LEU	3257	41.031	-4.550	43.530	1.00	28.76
ATOM	6742	CD1	LEU	3257	42.201	-4.723	44.464	1.00	29.95
ATOM	6743	CD2	LEU	3257	41.262	-5.374	42.300	1.00	29.03
ATOM	6744	C	LEU	3257	37.244	-5.303	44.263	1.00	29.78
ATOM	6745	O	LEU	3257	36.726	-4.305	44.765	1.00	29.93
ATOM	6746	N	GLN	3258	36.775	-6.533	44.459	1.00	30.52
ATOM	6747	CA	GLN	3258	35.596	-6.786	45.291	1.00	31.72
ATOM	6748	CB	GLN	3258	35.292	-8.291	45.299	1.00	31.94
ATOM	6749	C	GLN	3258	35.806	-6.298	46.730	1.00	31.62
ATOM	6750	O	GLN	3258	36.744	-6.712	47.398	1.00	32.20
ATOM	6751	N	ALA	3259	34.931	-5.412	47.194	1.00	31.74
ATOM	6752	CA	ALA	3259	35.025	-4.895	48.549	1.00	31.64

ATOM	6753	CB	ALA	3259	33.775	-4.082	48.873	1.00	30.51
ATOM	6754	C	ALA	3259	35.177	-6.061	49.546	1.00	32.18
ATOM	6755	O	ALA	3259	34.571	-7.123	49.371	1.00	32.29
ATOM	6756	N	GLY	3260	36.006	-5.869	50.570	1.00	32.16
ATOM	6757	CA	GLY	3260	36.181	-6.898	51.575	1.00	32.75
ATOM	6758	C	GLY	3260	37.317	-7.883	51.371	1.00	33.64
ATOM	6759	O	GLY	3260	37.694	-8.574	52.319	1.00	34.98
ATOM	6760	N	LEU	3261	37.865	-7.974	50.162	1.00	33.13
ATOM	6761	CA	LEU	3261	38.947	-8.920	49.906	1.00	32.17
ATOM	6762	CB	LEU	3261	38.518	-9.982	48.895	1.00	33.11
ATOM	6763	CG	LEU	3261	37.375	-10.926	49.281	1.00	33.96
ATOM	6764	CD1	LEU	3261	37.470	-12.170	48.417	1.00	33.89
ATOM	6765	CD2	LEU	3261	37.468	-11.313	50.746	1.00	33.03
ATOM	6766	C	LEU	3261	40.206	-8.263	49.388	1.00	31.71
ATOM	6767	O	LEU	3261	40.146	-7.368	48.559	1.00	31.83
ATOM	6768	N	PRO	3262	41.375	-8.695	49.887	1.00	31.76
ATOM	6769	CD	PRO	3262	42.674	-8.201	49.404	1.00	31.72
ATOM	6770	CA	PRO	3262	41.567	-9.745	50.895	1.00	32.18
ATOM	6771	CB	PRO	3262	43.072	-9.964	50.873	1.00	32.29
ATOM	6772	CG	PRO	3262	43.598	-8.614	50.527	1.00	31.74
ATOM	6773	C	PRO	3262	41.091	-9.293	52.270	1.00	32.91
ATOM	6774	O	PRO	3262	40.980	-8.089	52.535	1.00	33.29
ATOM	6775	N	ALA	3263	40.835	-10.253	53.153	1.00	33.36
ATOM	6776	CA	ALA	3263	40.366	-9.937	54.500	1.00	33.49
ATOM	6777	CB	ALA	3263	39.123	-10.756	54.822	1.00	33.17
ATOM	6778	C	ALA	3263	41.425	-10.177	55.568	1.00	33.72
ATOM	6779	O	ALA	3263	42.300	-11.030	55.421	1.00	33.56
ATOM	6780	N	ASN	3264	41.335	-9.421	56.653	1.00	34.59
ATOM	6781	CA	ASN	3264	42.272	-9.570	57.755	1.00	35.59
ATOM	6782	CB	ASN	3264	41.970	-8.549	58.851	1.00	35.75
ATOM	6783	CG	ASN	3264	42.041	-7.114	58.354	1.00	36.48
ATOM	6784	OD1	ASN	3264	42.870	-6.776	57.492	1.00	36.39
ATOM	6785	ND2	ASN	3264	41.189	-6.255	58.907	1.00	35.77
ATOM	6786	C	ASN	3264	42.153	-10.980	58.326	1.00	36.61
ATOM	6787	O	ASN	3264	41.062	-11.544	58.401	1.00	37.38
ATOM	6788	N	LYS	3265	43.273	-11.556	58.730	1.00	37.25
ATOM	6789	CA	LYS	3265	43.251	-12.894	59.287	1.00	38.57
ATOM	6790	CB	LYS	3265	43.684	-13.921	58.232	1.00	39.20
ATOM	6791	CG	LYS	3265	42.603	-14.311	57.229	1.00	39.47
ATOM	6792	CD	LYS	3265	43.237	-14.914	55.975	1.00	40.38
ATOM	6793	CE	LYS	3265	42.212	-15.618	55.071	1.00	40.94
ATOM	6794	NZ	LYS	3265	41.128	-14.729	54.563	1.00	40.84
ATOM	6795	C	LYS	3265	44.143	-13.015	60.510	1.00	39.23
ATOM	6796	O	LYS	3265	45.242	-12.462	60.562	1.00	38.94
ATOM	6797	N	THR	3266	43.646	-13.747	61.497	1.00	39.76
ATOM	6798	CA	THR	3266	44.372	-13.993	62.725	1.00	40.06
ATOM	6799	CB	THR	3266	43.572	-13.479	63.938	1.00	39.58
ATOM	6800	OG1	THR	3266	43.477	-12.047	63.868	1.00	40.05
ATOM	6801	CG2	THR	3266	44.240	-13.892	65.244	1.00	38.53
ATOM	6802	C	THR	3266	44.503	-15.509	62.790	1.00	40.69
ATOM	6803	O	THR	3266	43.504	-16.211	62.879	1.00	40.94
ATOM	6804	N	VAL	3267	45.723	-16.025	62.710	1.00	40.91
ATOM	6805	CA	VAL	3267	45.894	-17.467	62.776	1.00	41.66
ATOM	6806	CB	VAL	3267	46.152	-18.085	61.390	1.00	41.15
ATOM	6807	CG1	VAL	3267	45.047	-17.681	60.442	1.00	41.40
ATOM	6808	CG2	VAL	3267	47.524	-17.662	60.867	1.00	41.44
ATOM	6809	C	VAL	3267	47.015	-17.896	63.706	1.00	42.68
ATOM	6810	O	VAL	3267	47.886	-17.100	64.075	1.00	42.80
ATOM	6811	N	ALA	3268	46.975	-19.170	64.086	1.00	43.67
ATOM	6812	CA	ALA	3268	47.971	-19.740	64.977	1.00	44.57
ATOM	6813	CB	ALA	3268	47.428	-21.008	65.622	1.00	43.49
ATOM	6814	C	ALA	3268	49.243	-20.043	64.193	1.00	45.06

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ATOM   6815  O   ALA  3268      49.202 -20.345  62.998  1.00 44.73
ATOM   6816  N   LEU  3269      50.375 -19.950  64.872  1.00 45.95
ATOM   6817  CA  LEU  3269      51.653 -20.216  64.233  1.00 47.35
ATOM   6818  CB  LEU  3269      52.769 -20.180  65.281  1.00 47.80
ATOM   6819  CG  LEU  3269      54.112 -19.616  64.818  1.00 48.41
ATOM   6820  CD1 LEU  3269      55.011 -19.389  66.030  1.00 48.33
ATOM   6821  CD2 LEU  3269      54.755 -20.560  63.809  1.00 48.31
ATOM   6822  C   LEU  3269      51.596 -21.587  63.564  1.00 47.95
ATOM   6823  O   LEU  3269      50.994 -22.523  64.093  1.00 48.23
ATOM   6824  N   GLY  3270      52.206 -21.699  62.390  1.00 48.46
ATOM   6825  CA  GLY  3270      52.214 -22.966  61.683  1.00 48.73
ATOM   6826  C   GLY  3270      50.971 -23.257  60.861  1.00 48.82
ATOM   6827  O   GLY  3270      50.896 -24.291  60.189  1.00 48.59
ATOM   6828  N   SER  3271      49.992 -22.357  60.904  1.00 48.74
ATOM   6829  CA  SER  3271      48.763 -22.552  60.135  1.00 48.72
ATOM   6830  CB  SER  3271      47.644 -21.608  60.616  1.00 48.30
ATOM   6831  OG  SER  3271      47.312 -21.786  61.983  1.00 48.90
ATOM   6832  C   SER  3271      49.000 -22.274  58.653  1.00 48.85
ATOM   6833  O   SER  3271      50.043 -21.747  58.252  1.00 48.72
ATOM   6834  N   ASN  3272      48.020 -22.644  57.840  1.00 48.90
ATOM   6835  CA  ASN  3272      48.080 -22.386  56.412  1.00 48.65
ATOM   6836  CB  ASN  3272      47.800 -23.656  55.601  1.00 49.88
ATOM   6837  CG  ASN  3272      49.053 -24.489  55.374  1.00 51.27
ATOM   6838  OD1 ASN  3272      49.648 -25.012  56.318  1.00 52.43
ATOM   6839  ND2 ASN  3272      49.465 -24.606  54.116  1.00 52.58
ATOM   6840  C   ASN  3272      46.992 -21.353  56.185  1.00 48.07
ATOM   6841  O   ASN  3272      45.898 -21.457  56.748  1.00 47.84
ATOM   6842  N   VAL  3273      47.289 -20.337  55.390  1.00 47.12
ATOM   6843  CA  VAL  3273      46.290 -19.314  55.148  1.00 46.55
ATOM   6844  CB  VAL  3273      46.505 -18.071  56.093  1.00 47.03
ATOM   6845  CG1 VAL  3273      47.782 -18.251  56.929  1.00 46.16
ATOM   6846  CG2 VAL  3273      46.565 -16.770  55.280  1.00 46.33
ATOM   6847  C   VAL  3273      46.275 -18.888  53.696  1.00 46.11
ATOM   6848  O   VAL  3273      47.302 -18.924  53.011  1.00 46.51
ATOM   6849  N   GLU  3274      45.095 -18.514  53.217  1.00 45.35
ATOM   6850  CA  GLU  3274      44.988 -18.056  51.850  1.00 44.83
ATOM   6851  CB  GLU  3274      44.421 -19.156  50.926  1.00 46.52
ATOM   6852  CG  GLU  3274      43.091 -19.780  51.325  1.00 48.74
ATOM   6853  CD  GLU  3274      42.653 -20.897  50.363  1.00 50.69
ATOM   6854  OE1 GLU  3274      43.397 -21.900  50.214  1.00 50.89
ATOM   6855  OE2 GLU  3274      41.562 -20.769  49.756  1.00 51.40
ATOM   6856  C   GLU  3274      44.189 -16.768  51.745  1.00 43.56
ATOM   6857  O   GLU  3274      43.062 -16.649  52.240  1.00 42.81
ATOM   6858  N   PHE  3275      44.821 -15.779  51.130  1.00 42.27
ATOM   6859  CA  PHE  3275      44.189 -14.489  50.918  1.00 41.18
ATOM   6860  CB  PHE  3275      45.231 -13.378  50.966  1.00 40.40
ATOM   6861  CG  PHE  3275      45.638 -12.985  52.356  1.00 39.51
ATOM   6862  CD1 PHE  3275      44.736 -12.342  53.203  1.00 38.97
ATOM   6863  CD2 PHE  3275      46.928 -13.228  52.813  1.00 38.46
ATOM   6864  CE1 PHE  3275      45.117 -11.944  54.481  1.00 37.64
ATOM   6865  CE2 PHE  3275      47.313 -12.832  54.093  1.00 37.76
ATOM   6866  CZ  PHE  3275      46.407 -12.189  54.924  1.00 37.33
ATOM   6867  C   PHE  3275      43.534 -14.530  49.546  1.00 41.21
ATOM   6868  O   PHE  3275      44.070 -15.137  48.612  1.00 40.63
ATOM   6869  N   MSE  3276      42.373 -13.897  49.431  1.00 41.06
ATOM   6870  CA  MSE  3276      41.647 -13.874  48.172  1.00 41.77
ATOM   6871  CB  MSE  3276      40.223 -14.412  48.351  1.00 43.92
ATOM   6872  CG  MSE  3276      40.093 -15.885  48.719  1.00 46.98
ATOM   6873  SE  MSE  3276      38.332 -16.335  48.910  1.00 50.73
ATOM   6874  CE  MSE  3276      37.829 -16.502  47.164  1.00 49.06
ATOM   6875  C   MSE  3276      41.541 -12.463  47.613  1.00 41.30
ATOM   6876  O   MSE  3276      41.661 -11.474  48.348  1.00 40.74
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ATOM	6877	N	CYS	3277	41.288	-12.388	46.309	1.00	40.07
ATOM	6878	CA	CYS	3277	41.131	-11.115	45.630	1.00	39.77
ATOM	6879	CB	CYS	3277	42.500	-10.532	45.295	1.00	40.32
ATOM	6880	SG	CYS	3277	42.391	-8.840	44.753	1.00	42.40
ATOM	6881	C	CYS	3277	40.315	-11.275	44.344	1.00	39.04
ATOM	6882	O	CYS	3277	40.741	-11.964	43.415	1.00	38.43
ATOM	6883	N	LYS	3278	39.146	-10.639	44.291	1.00	38.19
ATOM	6884	CA	LYS	3278	38.300	-10.716	43.107	1.00	37.48
ATOM	6885	CB	LYS	3278	36.835	-10.945	43.489	1.00	39.75
ATOM	6886	CG	LYS	3278	36.579	-12.219	44.307	1.00	42.10
ATOM	6887	CD	LYS	3278	37.021	-13.478	43.580	1.00	43.93
ATOM	6888	CE	LYS	3278	36.676	-14.725	44.385	1.00	44.92
ATOM	6889	NZ	LYS	3278	37.250	-15.937	43.734	1.00	46.50
ATOM	6890	C	LYS	3278	38.437	-9.436	42.297	1.00	36.08
ATOM	6891	O	LYS	3278	38.115	-8.340	42.761	1.00	36.47
ATOM	6892	N	VAL	3279	38.914	-9.587	41.071	1.00	34.21
ATOM	6893	CA	VAL	3279	39.132	-8.447	40.202	1.00	32.05
ATOM	6894	CB	VAL	3279	40.579	-8.434	39.672	1.00	31.88
ATOM	6895	CG1	VAL	3279	40.776	-7.271	38.716	1.00	32.10
ATOM	6896	CG2	VAL	3279	41.550	-8.339	40.826	1.00	31.09
ATOM	6897	C	VAL	3279	38.206	-8.392	39.004	1.00	31.21
ATOM	6898	O	VAL	3279	37.874	-9.420	38.412	1.00	31.40
ATOM	6899	N	TYR	3280	37.784	-7.179	38.660	1.00	29.95
ATOM	6900	CA	TYR	3280	36.943	-6.955	37.493	1.00	28.28
ATOM	6901	CB	TYR	3280	35.593	-6.330	37.850	1.00	27.93
ATOM	6902	CG	TYR	3280	34.823	-5.906	36.607	1.00	27.24
ATOM	6903	CD1	TYR	3280	34.056	-6.830	35.891	1.00	28.11
ATOM	6904	CE1	TYR	3280	33.466	-6.495	34.674	1.00	26.42
ATOM	6905	CD2	TYR	3280	34.968	-4.619	36.070	1.00	27.29
ATOM	6906	CE2	TYR	3280	34.388	-4.274	34.849	1.00	26.33
ATOM	6907	CZ	TYR	3280	33.645	-5.221	34.158	1.00	26.90
ATOM	6908	OH	TYR	3280	33.123	-4.921	32.922	1.00	27.24
ATOM	6909	C	TYR	3280	37.681	-5.961	36.616	1.00	27.94
ATOM	6910	O	TYR	3280	38.187	-4.949	37.105	1.00	27.35
ATOM	6911	N	SER	3281	37.724	-6.236	35.321	1.00	27.38
ATOM	6912	CA	SER	3281	38.383	-5.344	34.397	1.00	27.23
ATOM	6913	CB	SER	3281	39.886	-5.363	34.657	1.00	26.81
ATOM	6914	OG	SER	3281	40.575	-4.517	33.772	1.00	25.62
ATOM	6915	C	SER	3281	38.067	-5.782	32.975	1.00	27.95
ATOM	6916	O	SER	3281	38.168	-6.960	32.647	1.00	27.99
ATOM	6917	N	ASP	3282	37.651	-4.824	32.150	1.00	28.95
ATOM	6918	CA	ASP	3282	37.319	-5.063	30.751	1.00	29.12
ATOM	6919	CB	ASP	3282	36.653	-3.801	30.194	1.00	29.30
ATOM	6920	CG	ASP	3282	36.013	-4.010	28.841	1.00	31.43
ATOM	6921	OD1	ASP	3282	35.183	-3.147	28.478	1.00	33.06
ATOM	6922	OD2	ASP	3282	36.328	-5.000	28.136	1.00	30.58
ATOM	6923	C	ASP	3282	38.661	-5.359	30.072	1.00	29.46
ATOM	6924	O	ASP	3282	38.901	-6.468	29.600	1.00	29.59
ATOM	6925	N	PRO	3283	39.563	-4.370	30.024	1.00	29.66
ATOM	6926	CD	PRO	3283	39.554	-3.000	30.555	1.00	29.71
ATOM	6927	CA	PRO	3283	40.846	-4.678	29.388	1.00	30.05
ATOM	6928	CB	PRO	3283	41.600	-3.348	29.444	1.00	30.14
ATOM	6929	CG	PRO	3283	40.513	-2.320	29.644	1.00	30.25
ATOM	6930	C	PRO	3283	41.507	-5.707	30.303	1.00	30.59
ATOM	6931	O	PRO	3283	41.269	-5.701	31.514	1.00	31.46
ATOM	6932	N	GLN	3284	42.334	-6.576	29.737	1.00	30.53
ATOM	6933	CA	GLN	3284	43.031	-7.598	30.512	1.00	30.27
ATOM	6934	CB	GLN	3284	43.968	-8.363	29.566	1.00	30.53
ATOM	6935	CG	GLN	3284	43.982	-9.869	29.732	1.00	29.97
ATOM	6936	CD	GLN	3284	42.603	-10.474	29.774	1.00	29.67
ATOM	6937	OE1	GLN	3284	41.816	-10.327	28.848	1.00	29.38
ATOM	6938	NE2	GLN	3284	42.302	-11.164	30.862	1.00	30.61

ATOM	6939	C	GLN	3284	43.822	-6.937	31.656	1.00	30.59
ATOM	6940	O	GLN	3284	44.633	-6.034	31.430	1.00	31.04
ATOM	6941	N	PRO	3285	43.577	-7.357	32.906	1.00	30.70
ATOM	6942	CD	PRO	3285	42.404	-8.123	33.371	1.00	31.47
ATOM	6943	CA	PRO	3285	44.284	-6.774	34.050	1.00	31.11
ATOM	6944	CB	PRO	3285	43.234	-6.820	35.144	1.00	31.52
ATOM	6945	CG	PRO	3285	42.585	-8.135	34.880	1.00	30.63
ATOM	6946	C	PRO	3285	45.528	-7.549	34.458	1.00	31.70
ATOM	6947	O	PRO	3285	45.613	-8.766	34.265	1.00	31.22
ATOM	6948	N	HIS	3286	46.493	-6.841	35.031	1.00	32.16
ATOM	6949	CA	HIS	3286	47.701	-7.491	35.493	1.00	32.56
ATOM	6950	CB	HIS	3286	48.941	-6.783	34.957	1.00	34.45
ATOM	6951	CG	HIS	3286	50.208	-7.435	35.398	1.00	36.00
ATOM	6952	CD2	HIS	3286	50.845	-8.536	34.938	1.00	36.27
ATOM	6953	ND1	HIS	3286	50.888	-7.040	36.529	1.00	36.06
ATOM	6954	CE1	HIS	3286	51.890	-7.872	36.749	1.00	36.78
ATOM	6955	NE2	HIS	3286	51.886	-8.788	35.798	1.00	37.27
ATOM	6956	C	HIS	3286	47.698	-7.463	37.012	1.00	32.12
ATOM	6957	O	HIS	3286	47.817	-6.400	37.614	1.00	32.46
ATOM	6958	N	ILE	3287	47.548	-8.634	37.628	1.00	32.16
ATOM	6959	CA	ILE	3287	47.510	-8.745	39.085	1.00	31.95
ATOM	6960	CB	ILE	3287	46.573	-9.852	39.531	1.00	31.64
ATOM	6961	CG2	ILE	3287	46.545	-9.931	41.058	1.00	30.67
ATOM	6962	CG1	ILE	3287	45.178	-9.590	38.970	1.00	31.34
ATOM	6963	CD1	ILE	3287	44.206	-10.703	39.260	1.00	32.74
ATOM	6964	C	ILE	3287	48.874	-9.042	39.676	1.00	32.77
ATOM	6965	O	ILE	3287	49.720	-9.656	39.032	1.00	33.35
ATOM	6966	N	GLN	3288	49.074	-8.619	40.917	1.00	33.63
ATOM	6967	CA	GLN	3288	50.341	-8.825	41.599	1.00	34.86
ATOM	6968	CB	GLN	3288	51.298	-7.693	41.204	1.00	36.46
ATOM	6969	CG	GLN	3288	52.697	-7.788	41.768	1.00	39.66
ATOM	6970	CD	GLN	3288	53.743	-7.160	40.843	1.00	41.71
ATOM	6971	OE1	GLN	3288	54.121	-7.747	39.819	1.00	42.14
ATOM	6972	NE2	GLN	3288	54.213	-5.963	41.201	1.00	43.11
ATOM	6973	C	GLN	3288	50.089	-8.837	43.104	1.00	34.46
ATOM	6974	O	GLN	3288	49.286	-8.045	43.597	1.00	34.66
ATOM	6975	N	TRP	3289	50.740	-9.752	43.825	1.00	34.46
ATOM	6976	CA	TRP	3289	50.586	-9.831	45.289	1.00	33.83
ATOM	6977	CB	TRP	3289	50.315	-11.257	45.754	1.00	33.44
ATOM	6978	CG	TRP	3289	48.938	-11.742	45.546	1.00	31.95
ATOM	6979	CD2	TRP	3289	47.832	-11.581	46.444	1.00	32.13
ATOM	6980	CE2	TRP	3289	46.743	-12.275	45.889	1.00	31.46
ATOM	6981	CE3	TRP	3289	47.659	-10.918	47.668	1.00	31.70
ATOM	6982	CD1	TRP	3289	48.486	-12.490	44.508	1.00	31.70
ATOM	6983	NE1	TRP	3289	47.167	-12.823	44.707	1.00	32.11
ATOM	6984	CZ2	TRP	3289	45.493	-12.328	46.516	1.00	31.24
ATOM	6985	CZ3	TRP	3289	46.417	-10.973	48.292	1.00	30.83
ATOM	6986	CH2	TRP	3289	45.353	-11.673	47.714	1.00	30.77
ATOM	6987	C	TRP	3289	51.861	-9.368	45.960	1.00	33.85
ATOM	6988	O	TRP	3289	52.941	-9.866	45.638	1.00	33.32
ATOM	6989	N	LEU	3290	51.736	-8.424	46.892	1.00	34.60
ATOM	6990	CA	LEU	3290	52.897	-7.895	47.601	1.00	35.49
ATOM	6991	CB	LEU	3290	53.097	-6.398	47.336	1.00	35.97
ATOM	6992	CG	LEU	3290	53.162	-5.781	45.936	1.00	36.73
ATOM	6993	CD1	LEU	3290	53.933	-6.700	45.001	1.00	36.48
ATOM	6994	CD2	LEU	3290	51.758	-5.544	45.416	1.00	36.71
ATOM	6995	C	LEU	3290	52.777	-8.065	49.096	1.00	36.29
ATOM	6996	O	LEU	3290	51.673	-8.127	49.641	1.00	35.88
ATOM	6997	N	LYS	3291	53.933	-8.128	49.748	1.00	37.68
ATOM	6998	CA	LYS	3291	54.013	-8.245	51.191	1.00	39.41
ATOM	6999	CB	LYS	3291	54.741	-9.534	51.575	1.00	40.34
ATOM	7000	CG	LYS	3291	54.620	-9.909	53.053	1.00	42.31

ATOM	7001	CD	LYS	3291	55.531	-9.077	53.949	1.00	43.09
ATOM	7002	CE	LYS	3291	55.085	-9.175	55.420	1.00	44.47
ATOM	7003	NZ	LYS	3291	54.861	-10.580	55.894	1.00	43.64
ATOM	7004	C	LYS	3291	54.810	-7.031	51.652	1.00	40.40
ATOM	7005	O	LYS	3291	55.912	-6.802	51.177	1.00	40.33
ATOM	7006	N	HIS	3292	54.249	-6.237	52.554	1.00	42.24
ATOM	7007	CA	HIS	3292	54.956	-5.065	53.046	1.00	44.33
ATOM	7008	CB	HIS	3292	53.985	-4.105	53.730	1.00	45.41
ATOM	7009	CG	HIS	3292	53.057	-3.408	52.786	1.00	45.96
ATOM	7010	CD2	HIS	3292	52.210	-3.892	51.847	1.00	46.66
ATOM	7011	ND1	HIS	3292	52.956	-2.034	52.723	1.00	46.53
ATOM	7012	CE1	HIS	3292	52.090	-1.701	51.781	1.00	46.80
ATOM	7013	NE2	HIS	3292	51.623	-2.810	51.234	1.00	46.85
ATOM	7014	C	HIS	3292	56.037	-5.489	54.023	1.00	46.19
ATOM	7015	O	HIS	3292	55.760	-6.193	54.988	1.00	45.93
ATOM	7016	N	ILE	3293	57.267	-5.053	53.764	1.00	49.59
ATOM	7017	CA	ILE	3293	58.405	-5.389	54.616	1.00	53.02
ATOM	7018	CB	ILE	3293	59.402	-6.282	53.864	1.00	52.91
ATOM	7019	CG2	ILE	3293	58.699	-7.539	53.373	1.00	52.62
ATOM	7020	CG1	ILE	3293	60.022	-5.496	52.702	1.00	52.76
ATOM	7021	CD1	ILE	3293	61.054	-6.271	51.908	1.00	52.36
ATOM	7022	C	ILE	3293	59.152	-4.143	55.099	1.00	55.69
ATOM	7023	O	ILE	3293	59.164	-3.115	54.421	1.00	56.08
ATOM	7024	N	GLU	3294	59.792	-4.246	56.262	1.00	58.88
ATOM	7025	CA	GLU	3294	60.538	-3.122	56.834	1.00	62.18
ATOM	7026	CB	GLU	3294	60.032	-2.832	58.254	1.00	62.23
ATOM	7027	C	GLU	3294	62.046	-3.381	56.879	1.00	64.20
ATOM	7028	O	GLU	3294	62.509	-4.188	57.684	1.00	64.69
ATOM	7029	N	VAL	3295	62.809	-2.694	56.026	1.00	66.44
ATOM	7030	CA	VAL	3295	64.266	-2.863	55.990	1.00	68.86
ATOM	7031	CB	VAL	3295	64.938	-1.780	55.121	1.00	68.91
ATOM	7032	CG1	VAL	3295	66.452	-1.943	55.162	1.00	68.37
ATOM	7033	CG2	VAL	3295	64.434	-1.878	53.695	1.00	69.00
ATOM	7034	C	VAL	3295	64.875	-2.792	57.395	1.00	70.80
ATOM	7035	O	VAL	3295	65.873	-3.457	57.694	1.00	71.06
ATOM	7036	N	ASN	3296	64.268	-1.970	58.245	1.00	72.76
ATOM	7037	CA	ASN	3296	64.696	-1.783	59.631	1.00	74.37
ATOM	7038	CB	ASN	3296	65.832	-0.758	59.696	1.00	74.54
ATOM	7039	CG	ASN	3296	66.964	-1.082	58.738	1.00	75.07
ATOM	7040	OD1	ASN	3296	67.685	-2.067	58.914	1.00	75.19
ATOM	7041	ND2	ASN	3296	67.119	-0.257	57.707	1.00	75.31
ATOM	7042	C	ASN	3296	63.455	-1.232	60.330	1.00	75.29
ATOM	7043	O	ASN	3296	62.334	-1.662	60.037	1.00	75.49
ATOM	7044	N	GLY	3297	63.636	-0.295	61.252	1.00	75.99
ATOM	7045	CA	GLY	3297	62.469	0.290	61.883	1.00	77.04
ATOM	7046	C	GLY	3297	61.794	1.036	60.743	1.00	77.74
ATOM	7047	O	GLY	3297	60.601	1.357	60.778	1.00	77.53
ATOM	7048	N	SER	3298	62.594	1.295	59.709	1.00	78.41
ATOM	7049	CA	SER	3298	62.145	1.997	58.516	1.00	79.25
ATOM	7050	CB	SER	3298	63.346	2.569	57.750	1.00	79.01
ATOM	7051	OG	SER	3298	64.201	1.538	57.284	1.00	79.25
ATOM	7052	C	SER	3298	61.345	1.086	57.593	1.00	79.83
ATOM	7053	O	SER	3298	61.901	0.244	56.878	1.00	80.13
ATOM	7054	N	LYS	3299	60.029	1.255	57.625	1.00	80.07
ATOM	7055	CA	LYS	3299	59.148	0.479	56.772	1.00	80.29
ATOM	7056	CB	LYS	3299	57.745	0.411	57.386	1.00	80.52
ATOM	7057	CG	LYS	3299	57.707	-0.197	58.786	1.00	80.89
ATOM	7058	CD	LYS	3299	56.288	-0.254	59.344	1.00	81.10
ATOM	7059	CE	LYS	3299	56.259	-0.882	60.735	1.00	80.99
ATOM	7060	NZ	LYS	3299	54.883	-0.927	61.305	1.00	80.65
ATOM	7061	C	LYS	3299	59.112	1.212	55.433	1.00	80.16
ATOM	7062	O	LYS	3299	59.013	0.594	54.375	1.00	80.40

ATOM	7063	N	ILE	3300	59.213	2.538	55.501	1.00	79.98
ATOM	7064	CA	ILE	3300	59.200	3.395	54.317	1.00	79.69
ATOM	7065	CB	ILE	3300	58.723	4.825	54.671	1.00	79.63
ATOM	7066	CG2	ILE	3300	58.594	5.667	53.401	1.00	79.72
ATOM	7067	CG1	ILE	3300	57.390	4.765	55.426	1.00	79.41
ATOM	7068	CD1	ILE	3300	56.253	4.116	54.657	1.00	79.32
ATOM	7069	C	ILE	3300	60.608	3.487	53.733	1.00	79.48
ATOM	7070	O	ILE	3300	61.594	3.289	54.448	1.00	79.39
ATOM	7071	N	GLY	3301	60.693	3.794	52.438	1.00	79.23
ATOM	7072	CA	GLY	3301	61.984	3.901	51.776	1.00	78.75
ATOM	7073	C	GLY	3301	62.391	5.314	51.396	1.00	78.43
ATOM	7074	O	GLY	3301	61.613	6.254	51.576	1.00	78.22
ATOM	7075	N	PRO	3302	63.617	5.495	50.869	1.00	78.33
ATOM	7076	CD	PRO	3302	64.630	4.432	50.715	1.00	78.24
ATOM	7077	CA	PRO	3302	64.163	6.794	50.450	1.00	78.05
ATOM	7078	CB	PRO	3302	65.496	6.409	49.816	1.00	78.14
ATOM	7079	CG	PRO	3302	65.918	5.221	50.645	1.00	78.20
ATOM	7080	C	PRO	3302	63.249	7.558	49.486	1.00	77.82
ATOM	7081	O	PRO	3302	63.168	8.789	49.530	1.00	77.68
ATOM	7082	N	ASP	3303	62.566	6.818	48.618	1.00	77.59
ATOM	7083	CA	ASP	3303	61.641	7.399	47.648	1.00	77.04
ATOM	7084	CB	ASP	3303	61.424	6.428	46.488	1.00	77.64
ATOM	7085	CG	ASP	3303	61.114	5.012	46.960	1.00	78.74
ATOM	7086	OD1	ASP	3303	60.674	4.188	46.129	1.00	79.08
ATOM	7087	OD2	ASP	3303	61.319	4.717	48.161	1.00	78.84
ATOM	7088	C	ASP	3303	60.294	7.717	48.302	1.00	76.37
ATOM	7089	O	ASP	3303	59.315	8.013	47.615	1.00	76.40
ATOM	7090	N	ASN	3304	60.258	7.650	49.632	1.00	75.35
ATOM	7091	CA	ASN	3304	59.055	7.923	50.419	1.00	74.01
ATOM	7092	CB	ASN	3304	58.443	9.271	50.015	1.00	74.62
ATOM	7093	CG	ASN	3304	57.289	9.686	50.919	1.00	75.31
ATOM	7094	OD1	ASN	3304	57.410	9.673	52.150	1.00	74.78
ATOM	7095	ND2	ASN	3304	56.165	10.067	50.309	1.00	75.48
ATOM	7096	C	ASN	3304	58.003	6.819	50.310	1.00	72.60
ATOM	7097	O	ASN	3304	56.999	6.839	51.022	1.00	72.47
ATOM	7098	N	LEU	3305	58.231	5.858	49.419	1.00	70.90
ATOM	7099	CA	LEU	3305	57.298	4.749	49.253	1.00	69.05
ATOM	7100	CB	LEU	3305	57.250	4.277	47.795	1.00	68.83
ATOM	7101	CG	LEU	3305	56.744	5.246	46.721	1.00	68.36
ATOM	7102	CD1	LEU	3305	55.696	6.181	47.310	1.00	67.98
ATOM	7103	CD2	LEU	3305	57.907	6.042	46.175	1.00	68.66
ATOM	7104	C	LEU	3305	57.708	3.586	50.152	1.00	67.70
ATOM	7105	O	LEU	3305	58.886	3.420	50.473	1.00	67.84
ATOM	7106	N	PRO	3306	56.731	2.766	50.575	1.00	65.95
ATOM	7107	CD	PRO	3306	55.285	2.974	50.366	1.00	65.41
ATOM	7108	CA	PRO	3306	56.972	1.608	51.445	1.00	64.27
ATOM	7109	CB	PRO	3306	55.570	1.274	51.955	1.00	64.68
ATOM	7110	CG	PRO	3306	54.701	1.646	50.793	1.00	64.90
ATOM	7111	C	PRO	3306	57.635	0.415	50.747	1.00	62.31
ATOM	7112	O	PRO	3306	57.341	0.125	49.585	1.00	62.30
ATOM	7113	N	TYR	3307	58.528	-0.273	51.457	1.00	59.98
ATOM	7114	CA	TYR	3307	59.205	-1.436	50.887	1.00	57.51
ATOM	7115	CB	TYR	3307	60.361	-1.900	51.772	1.00	59.68
ATOM	7116	CG	TYR	3307	61.474	-0.884	51.923	1.00	62.15
ATOM	7117	CD1	TYR	3307	61.439	0.071	52.942	1.00	63.18
ATOM	7118	CE1	TYR	3307	62.465	1.006	53.091	1.00	63.93
ATOM	7119	CD2	TYR	3307	62.566	-0.877	51.048	1.00	62.88
ATOM	7120	CE2	TYR	3307	63.598	0.059	51.186	1.00	63.66
ATOM	7121	CZ	TYR	3307	63.539	0.996	52.212	1.00	64.25
ATOM	7122	OH	TYR	3307	64.549	1.920	52.365	1.00	64.71
ATOM	7123	C	TYR	3307	58.219	-2.575	50.719	1.00	54.35
ATOM	7124	O	TYR	3307	57.352	-2.788	51.558	1.00	53.91

ATOM	7125	N	VAL	3308	58.370	-3.317	49.632	1.00	50.61
ATOM	7126	CA	VAL	3308	57.474	-4.418	49.335	1.00	47.32
ATOM	7127	CB	VAL	3308	56.374	-3.959	48.364	1.00	46.97
ATOM	7128	CG1	VAL	3308	55.379	-3.062	49.088	1.00	45.81
ATOM	7129	CG2	VAL	3308	56.999	-3.211	47.204	1.00	45.78
ATOM	7130	C	VAL	3308	58.210	-5.585	48.711	1.00	46.28
ATOM	7131	O	VAL	3308	59.282	-5.415	48.142	1.00	46.54
ATOM	7132	N	GLN	3309	57.627	-6.771	48.816	1.00	45.01
ATOM	7133	CA	GLN	3309	58.225	-7.962	48.249	1.00	44.02
ATOM	7134	CB	GLN	3309	58.601	-8.932	49.366	1.00	45.74
ATOM	7135	CG	GLN	3309	59.594	-10.024	48.969	1.00	47.62
ATOM	7136	CD	GLN	3309	59.662	-11.135	50.011	1.00	49.24
ATOM	7137	OE1	GLN	3309	59.963	-10.888	51.184	1.00	50.26
ATOM	7138	NE2	GLN	3309	59.376	-12.365	49.587	1.00	49.10
ATOM	7139	C	GLN	3309	57.179	-8.580	47.330	1.00	42.99
ATOM	7140	O	GLN	3309	56.058	-8.875	47.769	1.00	43.03
ATOM	7141	N	ILE	3310	57.528	-8.749	46.055	1.00	41.35
ATOM	7142	CA	ILE	3310	56.599	-9.338	45.097	1.00	40.25
ATOM	7143	CB	ILE	3310	57.080	-9.166	43.650	1.00	41.04
ATOM	7144	CG2	ILE	3310	55.925	-9.424	42.696	1.00	41.19
ATOM	7145	CG1	ILE	3310	57.637	-7.753	43.430	1.00	41.77
ATOM	7146	CD1	ILE	3310	56.600	-6.678	43.306	1.00	42.24
ATOM	7147	C	ILE	3310	56.498	-10.828	45.401	1.00	39.96
ATOM	7148	O	ILE	3310	57.478	-11.561	45.312	1.00	40.25
ATOM	7149	N	LEU	3311	55.304	-11.276	45.759	1.00	39.51
ATOM	7150	CA	LEU	3311	55.095	-12.667	46.108	1.00	38.97
ATOM	7151	CB	LEU	3311	54.140	-12.759	47.288	1.00	39.43
ATOM	7152	CG	LEU	3311	54.497	-11.941	48.523	1.00	39.54
ATOM	7153	CD1	LEU	3311	53.486	-12.251	49.630	1.00	39.14
ATOM	7154	CD2	LEU	3311	55.912	-12.275	48.964	1.00	38.54
ATOM	7155	C	LEU	3311	54.519	-13.484	44.974	1.00	39.11
ATOM	7156	O	LEU	3311	54.683	-14.707	44.942	1.00	39.21
ATOM	7157	N	LYS	3312	53.848	-12.817	44.043	1.00	38.74
ATOM	7158	CA	LYS	3312	53.205	-13.525	42.943	1.00	38.70
ATOM	7159	CB	LYS	3312	51.888	-14.115	43.455	1.00	39.20
ATOM	7160	CG	LYS	3312	51.449	-15.478	42.938	1.00	39.45
ATOM	7161	CD	LYS	3312	50.104	-15.809	43.608	1.00	40.94
ATOM	7162	CE	LYS	3312	49.697	-17.280	43.553	1.00	42.05
ATOM	7163	NZ	LYS	3312	49.386	-17.752	42.182	1.00	44.43
ATOM	7164	C	LYS	3312	52.925	-12.502	41.852	1.00	38.91
ATOM	7165	O	LYS	3312	52.396	-11.420	42.131	1.00	39.47
ATOM	7166	N	THR	3313	53.264	-12.840	40.613	1.00	38.80
ATOM	7167	CA	THR	3313	53.059	-11.921	39.496	1.00	38.76
ATOM	7168	CB	THR	3313	54.395	-11.323	39.048	1.00	39.34
ATOM	7169	OG1	THR	3313	55.086	-10.820	40.196	1.00	41.50
ATOM	7170	CG2	THR	3313	54.181	-10.191	38.065	1.00	39.46
ATOM	7171	C	THR	3313	52.434	-12.617	38.305	1.00	38.39
ATOM	7172	O	THR	3313	52.948	-13.634	37.843	1.00	39.52
ATOM	7173	N	ALA	3314	51.329	-12.073	37.802	1.00	37.51
ATOM	7174	CA	ALA	3314	50.662	-12.676	36.656	1.00	37.04
ATOM	7175	CB	ALA	3314	49.335	-11.988	36.404	1.00	36.65
ATOM	7176	C	ALA	3314	51.558	-12.590	35.417	1.00	36.40
ATOM	7177	O	ALA	3314	52.370	-11.674	35.280	1.00	36.33
ATOM	7178	N	GLY	3315	51.410	-13.562	34.528	1.00	35.90
ATOM	7179	CA	GLY	3315	52.199	-13.596	33.311	1.00	36.63
ATOM	7180	C	GLY	3315	51.986	-14.947	32.667	1.00	37.06
ATOM	7181	O	GLY	3315	51.132	-15.716	33.119	1.00	37.82
ATOM	7182	N	VAL	3316	52.745	-15.262	31.627	1.00	37.55
ATOM	7183	CA	VAL	3316	52.560	-16.560	30.975	1.00	38.82
ATOM	7184	CB	VAL	3316	53.410	-16.717	29.692	1.00	39.14
ATOM	7185	CG1	VAL	3316	53.239	-18.125	29.142	1.00	38.87
ATOM	7186	CG2	VAL	3316	52.972	-15.705	28.645	1.00	39.46

ATOM	7187	C	VAL	3316	52.887	-17.744	31.878	1.00	39.11
ATOM	7188	O	VAL	3316	52.374	-18.835	31.660	1.00	39.40
ATOM	7189	N	ASN	3317	53.726	-17.527	32.887	1.00	39.65
ATOM	7190	CA	ASN	3317	54.125	-18.595	33.797	1.00	40.12
ATOM	7191	CB	ASN	3317	55.564	-18.356	34.240	1.00	39.84
ATOM	7192	CG	ASN	3317	56.537	-18.590	33.117	1.00	39.94
ATOM	7193	OD1	ASN	3317	57.546	-17.899	32.987	1.00	39.93
ATOM	7194	ND2	ASN	3317	56.233	-19.582	32.284	1.00	39.60
ATOM	7195	C	ASN	3317	53.201	-18.741	34.998	1.00	40.98
ATOM	7196	O	ASN	3317	53.179	-19.783	35.660	1.00	41.56
ATOM	7197	N	THR	3318	52.439	-17.697	35.288	1.00	41.10
ATOM	7198	CA	THR	3318	51.496	-17.755	36.394	1.00	41.08
ATOM	7199	CB	THR	3318	51.991	-16.952	37.617	1.00	42.00
ATOM	7200	OG1	THR	3318	53.406	-17.138	37.776	1.00	42.41
ATOM	7201	CG2	THR	3318	51.290	-17.434	38.881	1.00	41.71
ATOM	7202	C	THR	3318	50.219	-17.144	35.845	1.00	41.10
ATOM	7203	O	THR	3318	49.988	-15.937	35.977	1.00	41.47
ATOM	7204	N	THR	3319	49.408	-17.982	35.200	1.00	40.82
ATOM	7205	CA	THR	3319	48.156	-17.530	34.596	1.00	40.88
ATOM	7206	CB	THR	3319	47.456	-18.636	33.805	1.00	40.73
ATOM	7207	OG1	THR	3319	47.059	-19.677	34.699	1.00	41.93
ATOM	7208	CG2	THR	3319	48.370	-19.189	32.739	1.00	40.84
ATOM	7209	C	THR	3319	47.147	-17.000	35.591	1.00	41.01
ATOM	7210	O	THR	3319	47.259	-17.225	36.799	1.00	40.86
ATOM	7211	N	ASP	3320	46.147	-16.298	35.066	1.00	41.89
ATOM	7212	CA	ASP	3320	45.115	-15.708	35.900	1.00	42.97
ATOM	7213	CB	ASP	3320	44.185	-14.839	35.059	1.00	44.13
ATOM	7214	CG	ASP	3320	44.918	-13.685	34.386	1.00	45.65
ATOM	7215	OD1	ASP	3320	45.907	-13.182	34.974	1.00	45.96
ATOM	7216	OD2	ASP	3320	44.499	-13.270	33.279	1.00	46.51
ATOM	7217	C	ASP	3320	44.318	-16.746	36.672	1.00	43.73
ATOM	7218	O	ASP	3320	43.772	-16.445	37.730	1.00	43.65
ATOM	7219	N	LYS	3321	44.264	-17.970	36.150	1.00	44.36
ATOM	7220	CA	LYS	3321	43.543	-19.059	36.812	1.00	45.74
ATOM	7221	CB	LYS	3321	43.957	-20.430	36.243	1.00	47.38
ATOM	7222	CG	LYS	3321	43.535	-20.721	34.806	1.00	50.38
ATOM	7223	CD	LYS	3321	43.587	-22.230	34.512	1.00	51.42
ATOM	7224	CE	LYS	3321	43.010	-22.571	33.128	1.00	51.62
ATOM	7225	NZ	LYS	3321	43.873	-22.093	32.006	1.00	51.59
ATOM	7226	C	LYS	3321	43.853	-19.083	38.299	1.00	45.49
ATOM	7227	O	LYS	3321	42.998	-19.422	39.118	1.00	45.37
ATOM	7228	N	GLU	3322	45.085	-18.735	38.650	1.00	45.54
ATOM	7229	CA	GLU	3322	45.471	-18.776	40.052	1.00	46.26
ATOM	7230	CB	GLU	3322	46.513	-19.866	40.253	1.00	48.12
ATOM	7231	CG	GLU	3322	47.718	-19.736	39.358	1.00	50.64
ATOM	7232	CD	GLU	3322	48.544	-21.004	39.350	1.00	52.54
ATOM	7233	OE1	GLU	3322	48.909	-21.487	40.451	1.00	52.82
ATOM	7234	OE2	GLU	3322	48.821	-21.517	38.242	1.00	53.67
ATOM	7235	C	GLU	3322	45.955	-17.479	40.698	1.00	45.70
ATOM	7236	O	GLU	3322	46.520	-17.508	41.794	1.00	45.36
ATOM	7237	N	MSE	3323	45.724	-16.342	40.049	1.00	44.60
ATOM	7238	CA	MSE	3323	46.166	-15.085	40.628	1.00	43.45
ATOM	7239	CB	MSE	3323	46.449	-14.061	39.535	1.00	43.98
ATOM	7240	CG	MSE	3323	47.711	-14.352	38.761	1.00	44.67
ATOM	7241	SE	MSE	3323	49.113	-14.547	39.850	1.00	44.93
ATOM	7242	CE	MSE	3323	49.484	-12.856	40.255	1.00	43.91
ATOM	7243	C	MSE	3323	45.201	-14.487	41.640	1.00	42.83
ATOM	7244	O	MSE	3323	45.569	-13.574	42.370	1.00	42.79
ATOM	7245	N	GLU	3324	43.976	-14.998	41.694	1.00	42.68
ATOM	7246	CA	GLU	3324	42.977	-14.482	42.626	1.00	42.76
ATOM	7247	CB	GLU	3324	41.563	-14.805	42.119	1.00	43.54
ATOM	7248	CG	GLU	3324	41.279	-14.316	40.703	1.00	46.16

ATOM	7249	CD	GLU	3324	39.790	-14.039	40.431	1.00	47.70
ATOM	7250	OE1	GLU	3324	38.964	-14.985	40.542	1.00	47.99
ATOM	7251	OE2	GLU	3324	39.456	-12.867	40.100	1.00	47.37
ATOM	7252	C	GLU	3324	43.134	-15.040	44.045	1.00	42.56
ATOM	7253	O	GLU	3324	42.310	-14.782	44.920	1.00	42.37
ATOM	7254	N	VAL	3325	44.196	-15.799	44.280	1.00	42.83
ATOM	7255	CA	VAL	3325	44.415	-16.393	45.592	1.00	43.10
ATOM	7256	CB	VAL	3325	43.895	-17.834	45.640	1.00	43.36
ATOM	7257	CG1	VAL	3325	44.790	-18.729	44.778	1.00	43.60
ATOM	7258	CG2	VAL	3325	43.876	-18.333	47.071	1.00	43.88
ATOM	7259	C	VAL	3325	45.893	-16.458	45.940	1.00	43.23
ATOM	7260	O	VAL	3325	46.721	-16.764	45.087	1.00	43.66
ATOM	7261	N	LEU	3326	46.221	-16.177	47.197	1.00	43.48
ATOM	7262	CA	LEU	3326	47.606	-16.238	47.653	1.00	43.43
ATOM	7263	CB	LEU	3326	48.087	-14.881	48.166	1.00	44.53
ATOM	7264	CG	LEU	3326	49.465	-14.933	48.841	1.00	44.58
ATOM	7265	CD1	LEU	3326	50.502	-15.399	47.829	1.00	44.70
ATOM	7266	CD2	LEU	3326	49.838	-13.565	49.390	1.00	44.44
ATOM	7267	C	LEU	3326	47.670	-17.245	48.788	1.00	43.47
ATOM	7268	O	LEU	3326	46.982	-17.092	49.802	1.00	42.57
ATOM	7269	N	HIS	3327	48.494	-18.275	48.609	1.00	44.13
ATOM	7270	CA	HIS	3327	48.647	-19.331	49.610	1.00	44.76
ATOM	7271	CB	HIS	3327	48.753	-20.712	48.944	1.00	46.04
ATOM	7272	CG	HIS	3327	47.512	-21.161	48.241	1.00	47.50
ATOM	7273	CD2	HIS	3327	47.261	-21.372	46.926	1.00	48.48
ATOM	7274	ND1	HIS	3327	46.353	-21.495	48.910	1.00	48.76
ATOM	7275	CE1	HIS	3327	45.441	-21.896	48.040	1.00	48.73
ATOM	7276	NE2	HIS	3327	45.967	-21.831	46.829	1.00	49.56
ATOM	7277	C	HIS	3327	49.904	-19.141	50.441	1.00	44.48
ATOM	7278	O	HIS	3327	50.992	-18.929	49.896	1.00	43.81
ATOM	7279	N	LEU	3328	49.747	-19.228	51.755	1.00	44.48
ATOM	7280	CA	LEU	3328	50.873	-19.125	52.675	1.00	45.32
ATOM	7281	CB	LEU	3328	50.734	-17.891	53.569	1.00	44.54
ATOM	7282	CG	LEU	3328	50.711	-16.517	52.897	1.00	44.09
ATOM	7283	CD1	LEU	3328	50.605	-15.449	53.957	1.00	44.36
ATOM	7284	CD2	LEU	3328	51.962	-16.299	52.088	1.00	43.15
ATOM	7285	C	LEU	3328	50.831	-20.399	53.519	1.00	46.36
ATOM	7286	O	LEU	3328	49.836	-20.669	54.200	1.00	46.50
ATOM	7287	N	ARG	3329	51.901	-21.189	53.467	1.00	47.48
ATOM	7288	CA	ARG	3329	51.950	-22.439	54.217	1.00	48.66
ATOM	7289	CB	ARG	3329	52.419	-23.576	53.300	1.00	48.62
ATOM	7290	C	ARG	3329	52.837	-22.362	55.456	1.00	49.00
ATOM	7291	O	ARG	3329	53.873	-21.697	55.447	1.00	49.17
ATOM	7292	N	ASN	3330	52.412	-23.042	56.519	1.00	50.00
ATOM	7293	CA	ASN	3330	53.165	-23.077	57.777	1.00	50.87
ATOM	7294	CB	ASN	3330	54.329	-24.072	57.650	1.00	52.14
ATOM	7295	CG	ASN	3330	55.248	-24.070	58.865	1.00	53.47
ATOM	7296	OD1	ASN	3330	56.414	-24.471	58.774	1.00	53.46
ATOM	7297	ND2	ASN	3330	54.728	-23.626	60.010	1.00	54.22
ATOM	7298	C	ASN	3330	53.711	-21.684	58.081	1.00	50.75
ATOM	7299	O	ASN	3330	54.925	-21.455	58.023	1.00	50.13
ATOM	7300	N	VAL	3331	52.815	-20.756	58.406	1.00	50.65
ATOM	7301	CA	VAL	3331	53.231	-19.388	58.674	1.00	51.07
ATOM	7302	CB	VAL	3331	52.020	-18.423	58.724	1.00	51.24
ATOM	7303	CG1	VAL	3331	51.394	-18.315	57.351	1.00	51.38
ATOM	7304	CG2	VAL	3331	50.995	-18.911	59.738	1.00	51.49
ATOM	7305	C	VAL	3331	54.047	-19.200	59.942	1.00	51.22
ATOM	7306	O	VAL	3331	53.802	-19.827	60.967	1.00	51.28
ATOM	7307	N	SER	3332	55.035	-18.323	59.849	1.00	51.54
ATOM	7308	CA	SER	3332	55.897	-18.001	60.970	1.00	51.95
ATOM	7309	CB	SER	3332	57.350	-17.992	60.506	1.00	52.28
ATOM	7310	OG	SER	3332	58.078	-16.956	61.146	1.00	52.72

ATOM	7311	C	SER	3332	55.502	-16.609	61.456	1.00	52.10
ATOM	7312	O	SER	3332	54.559	-16.019	60.940	1.00	52.43
ATOM	7313	N	PHE	3333	56.215	-16.085	62.447	1.00	52.56
ATOM	7314	CA	PHE	3333	55.934	-14.743	62.951	1.00	52.86
ATOM	7315	CB	PHE	3333	56.681	-14.480	64.261	1.00	52.88
ATOM	7316	CG	PHE	3333	55.926	-14.894	65.480	1.00	53.46
ATOM	7317	CD1	PHE	3333	56.428	-14.622	66.740	1.00	54.44
ATOM	7318	CD2	PHE	3333	54.703	-15.546	65.372	1.00	54.26
ATOM	7319	CE1	PHE	3333	55.722	-14.994	67.881	1.00	55.87
ATOM	7320	CE2	PHE	3333	53.987	-15.923	66.503	1.00	55.10
ATOM	7321	CZ	PHE	3333	54.494	-15.649	67.758	1.00	55.49
ATOM	7322	C	PHE	3333	56.396	-13.732	61.919	1.00	52.78
ATOM	7323	O	PHE	3333	55.937	-12.598	61.889	1.00	53.08
ATOM	7324	N	GLU	3334	57.328	-14.160	61.082	1.00	53.19
ATOM	7325	CA	GLU	3334	57.875	-13.314	60.037	1.00	53.59
ATOM	7326	CB	GLU	3334	59.041	-14.025	59.352	1.00	55.16
ATOM	7327	CG	GLU	3334	60.125	-14.514	60.291	1.00	58.14
ATOM	7328	CD	GLU	3334	60.869	-15.715	59.723	1.00	60.04
ATOM	7329	OE1	GLU	3334	61.934	-16.085	60.279	1.00	60.47
ATOM	7330	OE2	GLU	3334	60.375	-16.294	58.722	1.00	60.93
ATOM	7331	C	GLU	3334	56.802	-13.037	58.997	1.00	52.81
ATOM	7332	O	GLU	3334	56.747	-11.951	58.416	1.00	53.24
ATOM	7333	N	ASP	3335	55.955	-14.033	58.762	1.00	51.46
ATOM	7334	CA	ASP	3335	54.895	-13.916	57.777	1.00	49.82
ATOM	7335	CB	ASP	3335	54.249	-15.283	57.540	1.00	51.63
ATOM	7336	CG	ASP	3335	55.216	-16.289	56.932	1.00	53.20
ATOM	7337	OD1	ASP	3335	55.917	-15.919	55.963	1.00	53.59
ATOM	7338	OD2	ASP	3335	55.265	-17.447	57.417	1.00	54.31
ATOM	7339	C	ASP	3335	53.823	-12.895	58.145	1.00	48.09
ATOM	7340	O	ASP	3335	53.102	-12.404	57.275	1.00	47.80
ATOM	7341	N	ALA	3336	53.709	-12.575	59.428	1.00	45.74
ATOM	7342	CA	ALA	3336	52.708	-11.600	59.858	1.00	43.81
ATOM	7343	CB	ALA	3336	52.749	-11.432	61.380	1.00	42.82
ATOM	7344	C	ALA	3336	52.992	-10.265	59.167	1.00	42.18
ATOM	7345	O	ALA	3336	54.139	-9.984	58.804	1.00	42.16
ATOM	7346	N	GLY	3337	51.953	-9.453	58.981	1.00	40.23
ATOM	7347	CA	GLY	3337	52.139	-8.169	58.334	1.00	38.90
ATOM	7348	C	GLY	3337	51.065	-7.814	57.321	1.00	37.99
ATOM	7349	O	GLY	3337	50.007	-8.450	57.268	1.00	37.35
ATOM	7350	N	GLU	3338	51.344	-6.805	56.500	1.00	36.93
ATOM	7351	CA	GLU	3338	50.373	-6.360	55.515	1.00	36.36
ATOM	7352	CB	GLU	3338	50.333	-4.824	55.504	1.00	37.46
ATOM	7353	CG	GLU	3338	49.248	-4.213	54.629	1.00	38.69
ATOM	7354	CD	GLU	3338	49.175	-2.698	54.762	1.00	39.92
ATOM	7355	OE1	GLU	3338	50.247	-2.039	54.748	1.00	39.95
ATOM	7356	OE2	GLU	3338	48.043	-2.165	54.869	1.00	40.48
ATOM	7357	C	GLU	3338	50.607	-6.916	54.114	1.00	35.44
ATOM	7358	O	GLU	3338	51.713	-6.854	53.572	1.00	35.82
ATOM	7359	N	TYR	3339	49.549	-7.472	53.541	1.00	34.38
ATOM	7360	CA	TYR	3339	49.602	-8.046	52.204	1.00	34.33
ATOM	7361	CB	TYR	3339	49.139	-9.500	52.230	1.00	35.86
ATOM	7362	CG	TYR	3339	50.087	-10.385	52.984	1.00	37.43
ATOM	7363	CD1	TYR	3339	50.207	-10.294	54.377	1.00	38.20
ATOM	7364	CE1	TYR	3339	51.122	-11.084	55.076	1.00	38.38
ATOM	7365	CD2	TYR	3339	50.902	-11.287	52.306	1.00	38.51
ATOM	7366	CE2	TYR	3339	51.821	-12.079	52.992	1.00	39.35
ATOM	7367	CZ	TYR	3339	51.924	-11.972	54.374	1.00	38.70
ATOM	7368	OH	TYR	3339	52.827	-12.766	55.031	1.00	38.90
ATOM	7369	C	TYR	3339	48.713	-7.246	51.286	1.00	33.35
ATOM	7370	O	TYR	3339	47.612	-6.843	51.671	1.00	33.18
ATOM	7371	N	THR	3340	49.185	-7.016	50.068	1.00	32.84
ATOM	7372	CA	THR	3340	48.406	-6.235	49.118	1.00	32.60

ATOM	7373	CB	THR	3340	49.060	-4.830	48.872	1.00	32.53
ATOM	7374	OG1	THR	3340	48.902	-4.023	50.040	1.00	33.01
ATOM	7375	CG2	THR	3340	48.403	-4.098	47.696	1.00	32.70
ATOM	7376	C	THR	3340	48.174	-6.912	47.779	1.00	32.25
ATOM	7377	O	THR	3340	49.047	-7.583	47.232	1.00	31.96
ATOM	7378	N	CYS	3341	46.965	-6.729	47.267	1.00	33.05
ATOM	7379	CA	CYS	3341	46.597	-7.248	45.964	1.00	33.97
ATOM	7380	CB	CYS	3341	45.227	-7.900	46.003	1.00	34.97
ATOM	7381	SG	CYS	3341	44.857	-8.553	44.389	1.00	40.69
ATOM	7382	C	CYS	3341	46.558	-6.037	45.035	1.00	32.96
ATOM	7383	O	CYS	3341	45.682	-5.183	45.158	1.00	32.50
ATOM	7384	N	LEU	3342	47.513	-5.971	44.116	1.00	32.48
ATOM	7385	CA	LEU	3342	47.616	-4.858	43.189	1.00	32.48
ATOM	7386	CB	LEU	3342	49.076	-4.407	43.135	1.00	33.15
ATOM	7387	CG	LEU	3342	49.454	-3.104	42.430	1.00	34.51
ATOM	7388	CD1	LEU	3342	49.092	-1.912	43.303	1.00	34.35
ATOM	7389	CD2	LEU	3342	50.952	-3.099	42.176	1.00	35.12
ATOM	7390	C	LEU	3342	47.134	-5.263	41.791	1.00	32.09
ATOM	7391	O	LEU	3342	47.558	-6.283	41.253	1.00	33.01
ATOM	7392	N	ALA	3343	46.250	-4.469	41.200	1.00	31.02
ATOM	7393	CA	ALA	3343	45.739	-4.784	39.868	1.00	30.21
ATOM	7394	CB	ALA	3343	44.328	-5.375	39.966	1.00	29.15
ATOM	7395	C	ALA	3343	45.717	-3.541	38.997	1.00	30.06
ATOM	7396	O	ALA	3343	45.231	-2.489	39.409	1.00	31.07
ATOM	7397	N	GLY	3344	46.242	-3.648	37.786	1.00	29.35
ATOM	7398	CA	GLY	3344	46.219	-2.491	36.918	1.00	29.15
ATOM	7399	C	GLY	3344	46.026	-2.823	35.456	1.00	29.17
ATOM	7400	O	GLY	3344	46.191	-3.971	35.033	1.00	29.56
ATOM	7401	N	ASN	3345	45.631	-1.813	34.690	1.00	28.73
ATOM	7402	CA	ASN	3345	45.459	-1.944	33.250	1.00	28.57
ATOM	7403	CB	ASN	3345	44.006	-2.248	32.859	1.00	28.07
ATOM	7404	CG	ASN	3345	43.018	-1.228	33.377	1.00	29.42
ATOM	7405	OD1	ASN	3345	43.270	-0.018	33.356	1.00	29.45
ATOM	7406	ND2	ASN	3345	41.863	-1.712	33.827	1.00	29.23
ATOM	7407	C	ASN	3345	45.933	-0.615	32.672	1.00	29.54
ATOM	7408	O	ASN	3345	46.382	0.257	33.420	1.00	29.62
ATOM	7409	N	SER	3346	45.851	-0.442	31.359	1.00	30.06
ATOM	7410	CA	SER	3346	46.340	0.797	30.758	1.00	30.55
ATOM	7411	CB	SER	3346	46.133	0.781	29.235	1.00	30.53
ATOM	7412	OG	SER	3346	45.062	1.619	28.836	1.00	31.68
ATOM	7413	C	SER	3346	45.714	2.047	31.364	1.00	31.09
ATOM	7414	O	SER	3346	46.365	3.087	31.450	1.00	32.05
ATOM	7415	N	ILE	3347	44.466	1.944	31.811	1.00	31.38
ATOM	7416	CA	ILE	3347	43.765	3.089	32.399	1.00	31.08
ATOM	7417	CB	ILE	3347	42.232	2.891	32.326	1.00	30.92
ATOM	7418	CG2	ILE	3347	41.524	4.096	32.941	1.00	29.41
ATOM	7419	CG1	ILE	3347	41.816	2.688	30.862	1.00	29.84
ATOM	7420	CD1	ILE	3347	40.474	2.016	30.663	1.00	29.21
ATOM	7421	C	ILE	3347	44.136	3.454	33.839	1.00	31.37
ATOM	7422	O	ILE	3347	44.069	4.630	34.206	1.00	31.86
ATOM	7423	N	GLY	3348	44.518	2.474	34.656	1.00	31.56
ATOM	7424	CA	GLY	3348	44.874	2.785	36.034	1.00	31.39
ATOM	7425	C	GLY	3348	45.158	1.612	36.964	1.00	32.13
ATOM	7426	O	GLY	3348	45.062	0.440	36.570	1.00	32.10
ATOM	7427	N	LEU	3349	45.510	1.933	38.211	1.00	32.34
ATOM	7428	CA	LEU	3349	45.815	0.924	39.228	1.00	32.22
ATOM	7429	CB	LEU	3349	47.237	1.091	39.766	1.00	32.93
ATOM	7430	CG	LEU	3349	48.377	0.584	38.891	1.00	34.83
ATOM	7431	CD1	LEU	3349	48.439	1.372	37.595	1.00	35.45
ATOM	7432	CD2	LEU	3349	49.679	0.730	39.650	1.00	35.87
ATOM	7433	C	LEU	3349	44.851	0.911	40.412	1.00	31.88
ATOM	7434	O	LEU	3349	44.263	1.925	40.783	1.00	31.99

ATOM	7435	N	SER	3350	44.701	-0.258	41.011	1.00	31.38
ATOM	7436	CA	SER	3350	43.827	-0.410	42.150	1.00	31.50
ATOM	7437	CB	SER	3350	42.454	-0.908	41.709	1.00	33.26
ATOM	7438	OG	SER	3350	41.766	0.076	40.951	1.00	35.68
ATOM	7439	C	SER	3350	44.466	-1.421	43.078	1.00	31.48
ATOM	7440	O	SER	3350	45.238	-2.273	42.641	1.00	30.86
ATOM	7441	N	HIS	3351	44.158	-1.322	44.365	1.00	31.34
ATOM	7442	CA	HIS	3351	44.721	-2.253	45.313	1.00	31.29
ATOM	7443	CB	HIS	3351	46.179	-1.891	45.598	1.00	32.94
ATOM	7444	CG	HIS	3351	46.344	-0.621	46.369	1.00	35.14
ATOM	7445	CD2	HIS	3351	46.357	-0.386	47.704	1.00	35.09
ATOM	7446	ND1	HIS	3351	46.488	0.608	45.760	1.00	36.43
ATOM	7447	CE1	HIS	3351	46.584	1.545	46.689	1.00	36.63
ATOM	7448	NE2	HIS	3351	46.508	0.967	47.876	1.00	35.77
ATOM	7449	C	HIS	3351	43.939	-2.302	46.608	1.00	30.98
ATOM	7450	O	HIS	3351	43.307	-1.326	47.006	1.00	31.38
ATOM	7451	N	HIS	3352	43.977	-3.463	47.247	1.00	30.50
ATOM	7452	CA	HIS	3352	43.310	-3.690	48.521	1.00	31.11
ATOM	7453	CB	HIS	3352	42.134	-4.667	48.368	1.00	32.61
ATOM	7454	CG	HIS	3352	40.832	-4.022	47.997	1.00	34.73
ATOM	7455	CD2	HIS	3352	40.529	-2.749	47.641	1.00	35.31
ATOM	7456	ND1	HIS	3352	39.643	-4.721	47.967	1.00	34.42
ATOM	7457	CE1	HIS	3352	38.664	-3.907	47.609	1.00	35.07
ATOM	7458	NE2	HIS	3352	39.175	-2.704	47.406	1.00	35.61
ATOM	7459	C	HIS	3352	44.373	-4.323	49.409	1.00	30.95
ATOM	7460	O	HIS	3352	45.243	-5.050	48.922	1.00	31.37
ATOM	7461	N	SER	3353	44.316	-4.049	50.704	1.00	30.04
ATOM	7462	CA	SER	3353	45.297	-4.614	51.612	1.00	29.83
ATOM	7463	CB	SER	3353	46.247	-3.527	52.106	1.00	29.77
ATOM	7464	OG	SER	3353	46.735	-2.761	51.022	1.00	31.77
ATOM	7465	C	SER	3353	44.618	-5.270	52.791	1.00	29.79
ATOM	7466	O	SER	3353	43.494	-4.921	53.160	1.00	28.89
ATOM	7467	N	ALA	3354	45.300	-6.237	53.379	1.00	29.91
ATOM	7468	CA	ALA	3354	44.750	-6.907	54.537	1.00	31.47
ATOM	7469	CB	ALA	3354	44.032	-8.204	54.131	1.00	30.88
ATOM	7470	C	ALA	3354	45.911	-7.188	55.467	1.00	32.16
ATOM	7471	O	ALA	3354	47.067	-7.197	55.044	1.00	31.55
ATOM	7472	N	TRP	3355	45.605	-7.384	56.741	1.00	33.27
ATOM	7473	CA	TRP	3355	46.650	-7.658	57.692	1.00	34.86
ATOM	7474	CB	TRP	3355	46.568	-6.689	58.862	1.00	37.11
ATOM	7475	CG	TRP	3355	47.873	-6.595	59.565	1.00	40.21
ATOM	7476	CD2	TRP	3355	48.796	-5.508	59.487	1.00	41.19
ATOM	7477	CE2	TRP	3355	49.950	-5.888	60.218	1.00	42.23
ATOM	7478	CE3	TRP	3355	48.763	-4.251	58.868	1.00	41.95
ATOM	7479	CD1	TRP	3355	48.481	-7.567	60.329	1.00	40.96
ATOM	7480	NE1	TRP	3355	49.732	-7.146	60.721	1.00	41.71
ATOM	7481	CZ2	TRP	3355	51.060	-5.050	60.345	1.00	42.59
ATOM	7482	CZ3	TRP	3355	49.864	-3.420	58.994	1.00	42.71
ATOM	7483	CH2	TRP	3355	51.000	-3.823	59.729	1.00	43.09
ATOM	7484	C	TRP	3355	46.584	-9.095	58.193	1.00	35.22
ATOM	7485	O	TRP	3355	45.504	-9.633	58.446	1.00	34.37
ATOM	7486	N	LEU	3356	47.751	-9.716	58.321	1.00	35.39
ATOM	7487	CA	LEU	3356	47.829	-11.084	58.794	1.00	35.91
ATOM	7488	CB	LEU	3356	48.700	-11.908	57.845	1.00	35.85
ATOM	7489	CG	LEU	3356	48.772	-13.439	57.935	1.00	35.87
ATOM	7490	CD1	LEU	3356	50.144	-13.848	58.418	1.00	36.03
ATOM	7491	CD2	LEU	3356	47.673	-13.986	58.832	1.00	35.53
ATOM	7492	C	LEU	3356	48.415	-11.076	60.201	1.00	36.68
ATOM	7493	O	LEU	3356	49.530	-10.610	60.415	1.00	36.79
ATOM	7494	N	THR	3357	47.642	-11.576	61.162	1.00	37.27
ATOM	7495	CA	THR	3357	48.063	-11.634	62.556	1.00	37.55
ATOM	7496	CB	THR	3357	46.933	-11.180	63.490	1.00	37.49

ATOM	7497	OG1	THR	3357	46.447	-9.897	63.079	1.00	36.40
ATOM	7498	CG2	THR	3357	47.431	-11.104	64.919	1.00	37.98
ATOM	7499	C	THR	3357	48.406	-13.082	62.911	1.00	38.40
ATOM	7500	O	THR	3357	47.574	-13.977	62.771	1.00	38.20
ATOM	7501	N	VAL	3358	49.626	-13.304	63.380	1.00	39.41
ATOM	7502	CA	VAL	3358	50.082	-14.640	63.741	1.00	40.99
ATOM	7503	CB	VAL	3358	51.438	-14.941	63.046	1.00	40.75
ATOM	7504	CG1	VAL	3358	51.897	-16.352	63.365	1.00	41.08
ATOM	7505	CG2	VAL	3358	51.305	-14.743	61.540	1.00	40.17
ATOM	7506	C	VAL	3358	50.256	-14.795	65.254	1.00	41.93
ATOM	7507	O	VAL	3358	50.966	-14.016	65.876	1.00	42.39
ATOM	7508	N	LEU	3359	49.605	-15.800	65.837	1.00	43.17
ATOM	7509	CA	LEU	3359	49.710	-16.066	67.274	1.00	44.22
ATOM	7510	CB	LEU	3359	48.324	-16.129	67.914	1.00	44.18
ATOM	7511	CG	LEU	3359	47.327	-15.016	67.583	1.00	44.86
ATOM	7512	CD1	LEU	3359	46.035	-15.270	68.346	1.00	45.20
ATOM	7513	CD2	LEU	3359	47.886	-13.663	67.950	1.00	45.39
ATOM	7514	C	LEU	3359	50.417	-17.406	67.498	1.00	44.51
ATOM	7515	O	LEU	3359	50.826	-17.656	68.655	1.00	45.83
ATOM	7516	CB	MSE	4149	55.752	-7.531	106.532	1.00	71.20
ATOM	7517	CG	MSE	4149	54.736	-8.642	106.214	1.00	72.56
ATOM	7518	SE	MSE	4149	55.067	-10.319	106.853	1.00	74.40
ATOM	7519	CE	MSE	4149	54.131	-10.289	108.404	1.00	73.33
ATOM	7520	C	MSE	4149	56.974	-8.057	104.391	1.00	69.48
ATOM	7521	O	MSE	4149	56.002	-7.677	103.739	1.00	69.80
ATOM	7522	N	MSE	4149	57.883	-6.381	105.972	1.00	70.34
ATOM	7523	CA	MSE	4149	57.131	-7.667	105.862	1.00	70.46
ATOM	7524	N	PRO	4150	57.945	-8.812	103.848	1.00	68.10
ATOM	7525	CD	PRO	4150	59.230	-9.111	104.503	1.00	67.49
ATOM	7526	CA	PRO	4150	57.964	-9.281	102.458	1.00	66.67
ATOM	7527	CB	PRO	4150	59.220	-10.142	102.408	1.00	66.76
ATOM	7528	CG	PRO	4150	60.134	-9.407	103.323	1.00	67.00
ATOM	7529	C	PRO	4150	56.720	-10.042	102.012	1.00	65.11
ATOM	7530	O	PRO	4150	56.303	-11.010	102.649	1.00	64.77
ATOM	7531	N	VAL	4151	56.144	-9.593	100.900	1.00	63.58
ATOM	7532	CA	VAL	4151	54.945	-10.202	100.332	1.00	61.56
ATOM	7533	CB	VAL	4151	53.703	-9.317	100.572	1.00	61.21
ATOM	7534	CG1	VAL	4151	52.448	-10.078	100.201	1.00	60.49
ATOM	7535	CG2	VAL	4151	53.650	-8.866	102.020	1.00	61.29
ATOM	7536	C	VAL	4151	55.095	-10.384	98.823	1.00	60.33
ATOM	7537	O	VAL	4151	55.314	-9.414	98.094	1.00	60.08
ATOM	7538	N	ALA	4152	54.979	-11.624	98.355	1.00	58.62
ATOM	7539	CA	ALA	4152	55.085	-11.899	96.926	1.00	56.87
ATOM	7540	CB	ALA	4152	55.167	-13.391	96.676	1.00	56.65
ATOM	7541	C	ALA	4152	53.851	-11.307	96.245	1.00	56.09
ATOM	7542	O	ALA	4152	52.743	-11.351	96.794	1.00	56.10
ATOM	7543	N	PRO	4153	54.024	-10.751	95.033	1.00	54.53
ATOM	7544	CD	PRO	4153	55.249	-10.779	94.221	1.00	54.03
ATOM	7545	CA	PRO	4153	52.926	-10.138	94.281	1.00	52.98
ATOM	7546	CB	PRO	4153	53.565	-9.829	92.924	1.00	52.76
ATOM	7547	CG	PRO	4153	54.692	-10.783	92.835	1.00	53.64
ATOM	7548	C	PRO	4153	51.621	-10.919	94.166	1.00	51.43
ATOM	7549	O	PRO	4153	51.612	-12.132	94.020	1.00	51.48
ATOM	7550	N	TYR	4154	50.513	-10.196	94.256	1.00	50.01
ATOM	7551	CA	TYR	4154	49.189	-10.792	94.143	1.00	48.99
ATOM	7552	CB	TYR	4154	48.683	-11.264	95.505	1.00	48.01
ATOM	7553	CG	TYR	4154	48.548	-10.144	96.498	1.00	47.32
ATOM	7554	CD1	TYR	4154	49.667	-9.629	97.152	1.00	46.78
ATOM	7555	CE1	TYR	4154	49.560	-8.552	98.023	1.00	47.07
ATOM	7556	CD2	TYR	4154	47.309	-9.555	96.740	1.00	47.24
ATOM	7557	CE2	TYR	4154	47.186	-8.474	97.605	1.00	47.94
ATOM	7558	CZ	TYR	4154	48.317	-7.977	98.246	1.00	47.99

ATOM	7559	OH	TYR	4154	48.198	-6.906	99.099	1.00	48.10
ATOM	7560	C	TYR	4154	48.211	-9.770	93.560	1.00	48.32
ATOM	7561	O	TYR	4154	48.407	-8.560	93.693	1.00	48.04
ATOM	7562	N	TRP	4155	47.164	-10.264	92.906	1.00	47.77
ATOM	7563	CA	TRP	4155	46.162	-9.387	92.305	1.00	47.16
ATOM	7564	CB	TRP	4155	45.243	-10.158	91.349	1.00	44.47
ATOM	7565	CG	TRP	4155	45.964	-11.008	90.361	1.00	41.47
ATOM	7566	CD2	TRP	4155	46.850	-10.561	89.331	1.00	40.49
ATOM	7567	CE2	TRP	4155	47.321	-11.710	88.664	1.00	39.93
ATOM	7568	CE3	TRP	4155	47.294	-9.299	88.906	1.00	40.11
ATOM	7569	CD1	TRP	4155	45.931	-12.363	90.278	1.00	40.57
ATOM	7570	NE1	TRP	4155	46.743	-12.795	89.263	1.00	39.94
ATOM	7571	CZ2	TRP	4155	48.218	-11.639	87.594	1.00	39.83
ATOM	7572	CZ3	TRP	4155	48.182	-9.227	87.845	1.00	39.17
ATOM	7573	CH2	TRP	4155	48.637	-10.393	87.201	1.00	39.98
ATOM	7574	C	TRP	4155	45.317	-8.784	93.401	1.00	47.62
ATOM	7575	O	TRP	4155	44.916	-9.477	94.328	1.00	47.64
ATOM	7576	N	THR	4156	45.042	-7.493	93.291	1.00	48.96
ATOM	7577	CA	THR	4156	44.236	-6.813	94.287	1.00	50.26
ATOM	7578	CB	THR	4156	44.804	-5.421	94.576	1.00	50.10
ATOM	7579	OG1	THR	4156	45.047	-4.737	93.343	1.00	51.09
ATOM	7580	CG2	THR	4156	46.113	-5.540	95.328	1.00	50.10
ATOM	7581	C	THR	4156	42.781	-6.712	93.843	1.00	51.28
ATOM	7582	O	THR	4156	41.890	-6.563	94.669	1.00	51.53
ATOM	7583	N	SER	4157	42.544	-6.803	92.537	1.00	52.51
ATOM	7584	CA	SER	4157	41.186	-6.742	91.996	1.00	53.88
ATOM	7585	CB	SER	4157	40.887	-5.355	91.407	1.00	53.95
ATOM	7586	OG	SER	4157	40.989	-4.345	92.394	1.00	54.88
ATOM	7587	C	SER	4157	40.983	-7.797	90.914	1.00	54.71
ATOM	7588	O	SER	4157	40.637	-7.471	89.776	1.00	54.69
ATOM	7589	N	PRO	4158	41.184	-9.082	91.256	1.00	55.82
ATOM	7590	CD	PRO	4158	41.337	-9.642	92.608	1.00	55.82
ATOM	7591	CA	PRO	4158	41.011	-10.164	90.276	1.00	56.78
ATOM	7592	CB	PRO	4158	41.181	-11.428	91.120	1.00	56.02
ATOM	7593	CG	PRO	4158	40.682	-11.000	92.453	1.00	55.91
ATOM	7594	C	PRO	4158	39.646	-10.097	89.606	1.00	57.50
ATOM	7595	O	PRO	4158	39.453	-10.588	88.495	1.00	57.14
ATOM	7596	N	GLU	4159	38.708	-9.478	90.308	1.00	58.50
ATOM	7597	CA	GLU	4159	37.351	-9.301	89.834	1.00	59.46
ATOM	7598	CB	GLU	4159	36.582	-8.561	90.924	1.00	60.97
ATOM	7599	CG	GLU	4159	35.135	-8.273	90.648	1.00	63.43
ATOM	7600	CD	GLU	4159	34.353	-8.045	91.942	1.00	65.30
ATOM	7601	OE1	GLU	4159	33.943	-9.050	92.579	1.00	65.46
ATOM	7602	OE2	GLU	4159	34.166	-6.863	92.331	1.00	66.01
ATOM	7603	C	GLU	4159	37.338	-8.526	88.513	1.00	59.05
ATOM	7604	O	GLU	4159	36.648	-8.917	87.565	1.00	59.69
ATOM	7605	N	LYS	4160	38.101	-7.437	88.433	1.00	58.13
ATOM	7606	CA	LYS	4160	38.113	-6.676	87.191	1.00	57.42
ATOM	7607	CB	LYS	4160	38.253	-5.165	87.439	1.00	57.32
ATOM	7608	CG	LYS	4160	39.152	-4.710	88.564	1.00	57.93
ATOM	7609	CD	LYS	4160	39.249	-3.173	88.551	1.00	58.19
ATOM	7610	CE	LYS	4160	37.881	-2.492	88.726	1.00	57.90
ATOM	7611	NZ	LYS	4160	37.872	-1.045	88.304	1.00	57.60
ATOM	7612	C	LYS	4160	39.112	-7.162	86.142	1.00	56.83
ATOM	7613	O	LYS	4160	39.502	-6.420	85.239	1.00	56.76
ATOM	7614	N	MSE	4161	39.498	-8.429	86.254	1.00	55.86
ATOM	7615	CA	MSE	4161	40.416	-9.049	85.300	1.00	55.21
ATOM	7616	CB	MSE	4161	41.659	-9.587	86.028	1.00	53.87
ATOM	7617	CG	MSE	4161	42.635	-8.505	86.512	1.00	52.07
ATOM	7618	SE	MSE	4161	43.979	-9.156	87.522	1.00	48.65
ATOM	7619	CE	MSE	4161	44.891	-10.063	86.318	1.00	49.23
ATOM	7620	C	MSE	4161	39.671	-10.198	84.613	1.00	55.38

ATOM	7621	O	MSE	4161	40.269	-11.039	83.938	1.00	55.27
ATOM	7622	N	GLU	4162	38.352	-10.213	84.796	1.00	55.47
ATOM	7623	CA	GLU	4162	37.484	-11.246	84.239	1.00	54.95
ATOM	7624	CB	GLU	4162	36.044	-11.023	84.716	1.00	56.55
ATOM	7625	CG	GLU	4162	35.437	-12.240	85.388	1.00	58.02
ATOM	7626	CD	GLU	4162	36.185	-12.631	86.651	1.00	59.59
ATOM	7627	OE1	GLU	4162	37.440	-12.695	86.603	1.00	59.62
ATOM	7628	OE2	GLU	4162	35.516	-12.880	87.685	1.00	59.60
ATOM	7629	C	GLU	4162	37.505	-11.305	82.718	1.00	53.61
ATOM	7630	O	GLU	4162	37.811	-12.342	82.133	1.00	53.64
ATOM	7631	N	LYS	4163	37.167	-10.182	82.095	1.00	51.83
ATOM	7632	CA	LYS	4163	37.118	-10.034	80.644	1.00	50.06
ATOM	7633	CB	LYS	4163	36.588	-8.637	80.330	1.00	49.55
ATOM	7634	CG	LYS	4163	36.521	-8.249	78.873	1.00	49.30
ATOM	7635	CD	LYS	4163	36.003	-6.821	78.775	1.00	48.47
ATOM	7636	CE	LYS	4163	36.058	-6.293	77.363	1.00	48.43
ATOM	7637	NZ	LYS	4163	35.706	-4.849	77.302	1.00	48.04
ATOM	7638	C	LYS	4163	38.480	-10.256	79.976	1.00	48.97
ATOM	7639	O	LYS	4163	39.337	-9.372	79.987	1.00	48.98
ATOM	7640	N	LYS	4164	38.666	-11.436	79.388	1.00	47.35
ATOM	7641	CA	LYS	4164	39.922	-11.782	78.727	1.00	45.87
ATOM	7642	CB	LYS	4164	40.114	-13.305	78.738	1.00	46.39
ATOM	7643	CG	LYS	4164	41.564	-13.752	78.601	1.00	47.97
ATOM	7644	CD	LYS	4164	41.698	-15.268	78.666	1.00	49.30
ATOM	7645	CE	LYS	4164	43.095	-15.683	79.123	1.00	50.07
ATOM	7646	NZ	LYS	4164	43.345	-15.286	80.550	1.00	51.37
ATOM	7647	C	LYS	4164	39.999	-11.267	77.293	1.00	43.96
ATOM	7648	O	LYS	4164	41.036	-10.766	76.864	1.00	43.43
ATOM	7649	N	LEU	4165	38.902	-11.402	76.552	1.00	41.90
ATOM	7650	CA	LEU	4165	38.868	-10.940	75.176	1.00	40.13
ATOM	7651	CB	LEU	4165	37.992	-11.857	74.329	1.00	39.40
ATOM	7652	CG	LEU	4165	37.708	-11.291	72.936	1.00	39.22
ATOM	7653	CD1	LEU	4165	39.020	-11.054	72.194	1.00	38.71
ATOM	7654	CD2	LEU	4165	36.823	-12.243	72.173	1.00	39.03
ATOM	7655	C	LEU	4165	38.343	-9.517	75.066	1.00	39.07
ATOM	7656	O	LEU	4165	37.243	-9.204	75.516	1.00	38.91
ATOM	7657	N	HIS	4166	39.145	-8.655	74.464	1.00	37.79
ATOM	7658	CA	HIS	4166	38.762	-7.269	74.253	1.00	36.51
ATOM	7659	CB	HIS	4166	39.864	-6.332	74.748	1.00	37.40
ATOM	7660	CG	HIS	4166	39.927	-6.203	76.235	1.00	38.51
ATOM	7661	CD2	HIS	4166	40.353	-7.064	77.190	1.00	39.41
ATOM	7662	ND1	HIS	4166	39.497	-5.074	76.901	1.00	39.08
ATOM	7663	CE1	HIS	4166	39.655	-5.246	78.202	1.00	39.42
ATOM	7664	NE2	HIS	4166	40.172	-6.446	78.405	1.00	39.60
ATOM	7665	C	HIS	4166	38.580	-7.088	72.750	1.00	34.98
ATOM	7666	O	HIS	4166	39.550	-7.119	71.991	1.00	34.40
ATOM	7667	N	ALA	4167	37.339	-6.929	72.316	1.00	33.25
ATOM	7668	CA	ALA	4167	37.073	-6.736	70.903	1.00	32.03
ATOM	7669	CB	ALA	4167	36.045	-7.750	70.425	1.00	31.56
ATOM	7670	C	ALA	4167	36.545	-5.318	70.738	1.00	30.93
ATOM	7671	O	ALA	4167	35.623	-4.904	71.447	1.00	31.19
ATOM	7672	N	VAL	4168	37.134	-4.561	69.821	1.00	29.63
ATOM	7673	CA	VAL	4168	36.687	-3.191	69.600	1.00	28.41
ATOM	7674	CB	VAL	4168	37.477	-2.161	70.461	1.00	28.76
ATOM	7675	CG1	VAL	4168	37.347	-2.484	71.932	1.00	28.09
ATOM	7676	CG2	VAL	4168	38.941	-2.151	70.053	1.00	28.20
ATOM	7677	C	VAL	4168	36.850	-2.786	68.152	1.00	27.74
ATOM	7678	O	VAL	4168	37.631	-3.382	67.409	1.00	28.42
ATOM	7679	N	PRO	4169	36.095	-1.767	67.727	1.00	27.18
ATOM	7680	CD	PRO	4169	35.127	-0.968	68.507	1.00	27.29
ATOM	7681	CA	PRO	4169	36.182	-1.292	66.350	1.00	26.53
ATOM	7682	CB	PRO	4169	34.968	-0.376	66.243	1.00	27.32

ATOM	7683	CG	PRO	4169	34.878	0.220	67.614	1.00	25.97
ATOM	7684	C	PRO	4169	37.500	-0.536	66.273	1.00	26.41
ATOM	7685	O	PRO	4169	38.039	-0.136	67.307	1.00	26.35
ATOM	7686	N	ALA	4170	38.019	-0.343	65.068	1.00	26.07
ATOM	7687	CA	ALA	4170	39.274	0.364	64.885	1.00	26.05
ATOM	7688	CB	ALA	4170	39.673	0.311	63.412	1.00	24.81
ATOM	7689	C	ALA	4170	39.141	1.811	65.360	1.00	26.45
ATOM	7690	O	ALA	4170	38.041	2.376	65.342	1.00	27.06
ATOM	7691	N	ALA	4171	40.259	2.383	65.813	1.00	26.45
ATOM	7692	CA	ALA	4171	40.333	3.771	66.280	1.00	26.51
ATOM	7693	CB	ALA	4171	39.442	4.684	65.412	1.00	24.70
ATOM	7694	C	ALA	4171	39.990	3.968	67.742	1.00	27.09
ATOM	7695	O	ALA	4171	40.227	5.039	68.291	1.00	28.09
ATOM	7696	N	LYS	4172	39.427	2.948	68.373	1.00	27.28
ATOM	7697	CA	LYS	4172	39.058	3.053	69.777	1.00	27.28
ATOM	7698	CB	LYS	4172	38.132	1.896	70.139	1.00	28.17
ATOM	7699	CG	LYS	4172	37.600	1.947	71.549	1.00	28.70
ATOM	7700	CD	LYS	4172	36.129	2.301	71.575	1.00	28.68
ATOM	7701	CE	LYS	4172	35.698	2.549	72.995	1.00	29.82
ATOM	7702	NZ	LYS	4172	36.361	1.602	73.952	1.00	30.11
ATOM	7703	C	LYS	4172	40.290	3.011	70.677	1.00	27.26
ATOM	7704	O	LYS	4172	41.341	2.495	70.291	1.00	26.80
ATOM	7705	N	THR	4173	40.156	3.560	71.878	1.00	27.62
ATOM	7706	CA	THR	4173	41.230	3.549	72.862	1.00	27.84
ATOM	7707	CB	THR	4173	41.134	4.770	73.803	1.00	27.74
ATOM	7708	OG1	THR	4173	41.514	5.950	73.082	1.00	27.96
ATOM	7709	CG2	THR	4173	42.035	4.590	75.026	1.00	27.01
ATOM	7710	C	THR	4173	41.066	2.273	73.690	1.00	28.59
ATOM	7711	O	THR	4173	39.962	1.961	74.130	1.00	29.65
ATOM	7712	N	VAL	4174	42.154	1.537	73.895	1.00	28.62
ATOM	7713	CA	VAL	4174	42.101	0.301	74.660	1.00	28.78
ATOM	7714	CB	VAL	4174	42.589	-0.896	73.820	1.00	28.82
ATOM	7715	CG1	VAL	4174	42.842	-2.100	74.710	1.00	27.13
ATOM	7716	CG2	VAL	4174	41.555	-1.235	72.765	1.00	28.27
ATOM	7717	C	VAL	4174	42.969	0.408	75.898	1.00	30.05
ATOM	7718	O	VAL	4174	44.092	0.919	75.848	1.00	30.16
ATOM	7719	N	LYS	4175	42.448	-0.089	77.012	1.00	30.82
ATOM	7720	CA	LYS	4175	43.183	-0.040	78.258	1.00	32.13
ATOM	7721	CB	LYS	4175	42.595	1.049	79.148	1.00	33.15
ATOM	7722	CG	LYS	4175	43.210	1.161	80.537	1.00	35.09
ATOM	7723	CD	LYS	4175	42.460	2.223	81.302	1.00	36.73
ATOM	7724	CE	LYS	4175	43.045	2.541	82.646	1.00	37.74
ATOM	7725	NZ	LYS	4175	42.157	3.557	83.280	1.00	38.46
ATOM	7726	C	LYS	4175	43.160	-1.376	78.985	1.00	32.37
ATOM	7727	O	LYS	4175	42.098	-1.908	79.303	1.00	32.60
ATOM	7728	N	PHE	4176	44.344	-1.920	79.236	1.00	33.48
ATOM	7729	CA	PHE	4176	44.481	-3.186	79.956	1.00	33.86
ATOM	7730	CB	PHE	4176	45.414	-4.143	79.217	1.00	31.28
ATOM	7731	CG	PHE	4176	44.939	-4.543	77.856	1.00	30.29
ATOM	7732	CD1	PHE	4176	43.671	-5.081	77.673	1.00	30.11
ATOM	7733	CD2	PHE	4176	45.789	-4.432	76.752	1.00	29.92
ATOM	7734	CE1	PHE	4176	43.259	-5.508	76.409	1.00	29.19
ATOM	7735	CE2	PHE	4176	45.390	-4.854	75.489	1.00	28.32
ATOM	7736	CZ	PHE	4176	44.120	-5.394	75.319	1.00	28.76
ATOM	7737	C	PHE	4176	45.080	-2.893	81.332	1.00	35.21
ATOM	7738	O	PHE	4176	45.987	-2.067	81.465	1.00	35.41
ATOM	7739	N	LYS	4177	44.588	-3.573	82.357	1.00	36.65
ATOM	7740	CA	LYS	4177	45.112	-3.354	83.693	1.00	38.29
ATOM	7741	CB	LYS	4177	44.213	-2.379	84.443	1.00	39.54
ATOM	7742	CG	LYS	4177	42.770	-2.806	84.466	1.00	42.71
ATOM	7743	CD	LYS	4177	41.870	-1.706	84.994	1.00	45.11
ATOM	7744	CE	LYS	4177	40.397	-2.123	84.907	1.00	47.24

ATOM	7745	NZ	LYS	4177	39.462	-1.101	85.494	1.00	49.21
ATOM	7746	C	LYS	4177	45.255	-4.635	84.494	1.00	38.33
ATOM	7747	O	LYS	4177	44.504	-5.585	84.316	1.00	37.60
ATOM	7748	N	CYS	4178	46.243	-4.646	85.377	1.00	39.49
ATOM	7749	CA	CYS	4178	46.489	-5.789	86.235	1.00	40.34
ATOM	7750	CB	CYS	4178	47.610	-6.617	85.650	1.00	40.76
ATOM	7751	SG	CYS	4178	47.096	-7.222	84.043	1.00	42.54
ATOM	7752	C	CYS	4178	46.824	-5.286	87.618	1.00	40.40
ATOM	7753	O	CYS	4178	47.962	-5.377	88.071	1.00	40.59
ATOM	7754	N	PRO	4179	45.815	-4.734	88.309	1.00	40.92
ATOM	7755	CD	PRO	4179	44.394	-4.747	87.919	1.00	40.19
ATOM	7756	CA	PRO	4179	45.982	-4.195	89.666	1.00	41.60
ATOM	7757	CB	PRO	4179	44.557	-3.793	90.073	1.00	41.00
ATOM	7758	CG	PRO	4179	43.829	-3.641	88.771	1.00	40.65
ATOM	7759	C	PRO	4179	46.548	-5.263	90.584	1.00	42.42
ATOM	7760	O	PRO	4179	45.959	-6.338	90.743	1.00	42.57
ATOM	7761	N	SER	4180	47.696	-4.971	91.177	1.00	43.48
ATOM	7762	CA	SER	4180	48.329	-5.921	92.071	1.00	44.76
ATOM	7763	CB	SER	4180	49.270	-6.825	91.282	1.00	44.24
ATOM	7764	OG	SER	4180	50.187	-6.052	90.544	1.00	44.37
ATOM	7765	C	SER	4180	49.088	-5.204	93.169	1.00	45.70
ATOM	7766	O	SER	4180	49.080	-3.970	93.250	1.00	45.95
ATOM	7767	N	SER	4181	49.739	-5.983	94.022	1.00	46.53
ATOM	7768	CA	SER	4181	50.489	-5.413	95.124	1.00	47.51
ATOM	7769	CB	SER	4181	49.523	-5.031	96.250	1.00	47.68
ATOM	7770	OG	SER	4181	50.087	-4.049	97.106	1.00	48.24
ATOM	7771	C	SER	4181	51.519	-6.408	95.631	1.00	47.76
ATOM	7772	O	SER	4181	51.648	-7.508	95.098	1.00	48.14
ATOM	7773	N	GLY	4182	52.246	-6.010	96.668	1.00	47.93
ATOM	7774	CA	GLY	4182	53.258	-6.869	97.243	1.00	48.71
ATOM	7775	C	GLY	4182	54.398	-6.016	97.748	1.00	49.17
ATOM	7776	O	GLY	4182	54.499	-4.837	97.397	1.00	49.15
ATOM	7777	N	THR	4183	55.253	-6.589	98.586	1.00	49.38
ATOM	7778	CA	THR	4183	56.378	-5.828	99.100	1.00	49.22
ATOM	7779	CB	THR	4183	56.116	-5.285	100.526	1.00	49.53
ATOM	7780	OG1	THR	4183	56.678	-6.181	101.492	1.00	51.52
ATOM	7781	CG2	THR	4183	54.609	-5.128	100.778	1.00	48.85
ATOM	7782	C	THR	4183	57.655	-6.654	99.082	1.00	48.59
ATOM	7783	O	THR	4183	57.678	-7.807	99.507	1.00	48.21
ATOM	7784	N	PRO	4184	58.736	-6.068	98.556	1.00	48.61
ATOM	7785	CD	PRO	4184	60.016	-6.735	98.261	1.00	48.28
ATOM	7786	CA	PRO	4184	58.719	-4.702	98.022	1.00	48.79
ATOM	7787	CB	PRO	4184	60.176	-4.470	97.636	1.00	48.81
ATOM	7788	CG	PRO	4184	60.612	-5.836	97.199	1.00	49.01
ATOM	7789	C	PRO	4184	57.764	-4.560	96.833	1.00	48.80
ATOM	7790	O	PRO	4184	57.331	-5.560	96.252	1.00	48.76
ATOM	7791	N	GLN	4185	57.430	-3.317	96.491	1.00	48.74
ATOM	7792	CA	GLN	4185	56.530	-3.040	95.376	1.00	48.71
ATOM	7793	CB	GLN	4185	56.439	-1.528	95.122	1.00	49.24
ATOM	7794	CG	GLN	4185	55.136	-1.097	94.455	1.00	50.72
ATOM	7795	CD	GLN	4185	53.924	-1.312	95.360	1.00	51.51
ATOM	7796	OE1	GLN	4185	52.894	-1.849	94.937	1.00	51.11
ATOM	7797	NE2	GLN	4185	54.047	-0.887	96.616	1.00	52.16
ATOM	7798	C	GLN	4185	57.042	-3.739	94.115	1.00	48.26
ATOM	7799	O	GLN	4185	58.192	-3.545	93.706	1.00	48.16
ATOM	7800	N	PRO	4186	56.193	-4.567	93.483	1.00	47.49
ATOM	7801	CD	PRO	4186	54.851	-4.975	93.937	1.00	47.00
ATOM	7802	CA	PRO	4186	56.580	-5.292	92.266	1.00	46.92
ATOM	7803	CB	PRO	4186	55.516	-6.374	92.165	1.00	46.95
ATOM	7804	CG	PRO	4186	54.306	-5.693	92.728	1.00	47.15
ATOM	7805	C	PRO	4186	56.623	-4.414	91.021	1.00	46.19
ATOM	7806	O	PRO	4186	55.906	-3.422	90.935	1.00	46.51

ATOM	7807	N	THR	4187	57.474	-4.778	90.067	1.00	45.33
ATOM	7808	CA	THR	4187	57.583	-4.033	88.818	1.00	44.44
ATOM	7809	CB	THR	4187	58.964	-4.211	88.157	1.00	44.82
ATOM	7810	OG1	THR	4187	59.232	-5.609	87.966	1.00	45.14
ATOM	7811	CG2	THR	4187	60.053	-3.580	89.019	1.00	45.18
ATOM	7812	C	THR	4187	56.528	-4.538	87.848	1.00	43.71
ATOM	7813	O	THR	4187	55.965	-5.618	88.031	1.00	43.78
ATOM	7814	N	LEU	4188	56.273	-3.759	86.806	1.00	42.68
ATOM	7815	CA	LEU	4188	55.274	-4.122	85.815	1.00	41.11
ATOM	7816	CB	LEU	4188	54.005	-3.294	86.046	1.00	41.25
ATOM	7817	CG	LEU	4188	52.820	-3.363	85.077	1.00	41.06
ATOM	7818	CD1	LEU	4188	51.704	-2.457	85.562	1.00	41.31
ATOM	7819	CD2	LEU	4188	53.246	-2.912	83.708	1.00	42.35
ATOM	7820	C	LEU	4188	55.775	-3.894	84.401	1.00	40.23
ATOM	7821	O	LEU	4188	56.121	-2.774	84.035	1.00	40.56
ATOM	7822	N	ARG	4189	55.821	-4.954	83.606	1.00	39.20
ATOM	7823	CA	ARG	4189	56.228	-4.820	82.219	1.00	38.28
ATOM	7824	CB	ARG	4189	57.659	-5.328	82.020	1.00	39.11
ATOM	7825	CG	ARG	4189	57.859	-6.822	82.128	1.00	41.52
ATOM	7826	CD	ARG	4189	59.342	-7.166	82.418	1.00	42.44
ATOM	7827	NE	ARG	4189	59.610	-8.589	82.214	1.00	43.99
ATOM	7828	CZ	ARG	4189	59.717	-9.149	81.011	1.00	45.40
ATOM	7829	NH1	ARG	4189	59.592	-8.398	79.920	1.00	45.98
ATOM	7830	NH2	ARG	4189	59.907	-10.458	80.886	1.00	45.64
ATOM	7831	C	ARG	4189	55.215	-5.566	81.342	1.00	37.22
ATOM	7832	O	ARG	4189	54.583	-6.531	81.787	1.00	37.17
ATOM	7833	N	TRP	4190	55.027	-5.096	80.113	1.00	35.15
ATOM	7834	CA	TRP	4190	54.067	-5.719	79.216	1.00	33.29
ATOM	7835	CB	TRP	4190	53.036	-4.698	78.720	1.00	31.42
ATOM	7836	CG	TRP	4190	52.126	-4.174	79.771	1.00	29.82
ATOM	7837	CD2	TRP	4190	50.824	-4.670	80.096	1.00	29.46
ATOM	7838	CE2	TRP	4190	50.322	-3.870	81.149	1.00	28.75
ATOM	7839	CE3	TRP	4190	50.028	-5.713	79.598	1.00	29.10
ATOM	7840	CD1	TRP	4190	52.359	-3.128	80.614	1.00	28.76
ATOM	7841	NE1	TRP	4190	51.278	-2.937	81.446	1.00	28.14
ATOM	7842	CZ2	TRP	4190	49.052	-4.080	81.714	1.00	28.50
ATOM	7843	CZ3	TRP	4190	48.763	-5.921	80.163	1.00	28.12
ATOM	7844	CH2	TRP	4190	48.293	-5.107	81.208	1.00	27.95
ATOM	7845	C	TRP	4190	54.708	-6.371	78.014	1.00	33.14
ATOM	7846	O	TRP	4190	55.738	-5.914	77.525	1.00	33.83
ATOM	7847	N	LEU	4191	54.086	-7.441	77.540	1.00	32.82
ATOM	7848	CA	LEU	4191	54.570	-8.148	76.365	1.00	33.52
ATOM	7849	CB	LEU	4191	54.933	-9.600	76.697	1.00	33.71
ATOM	7850	CG	LEU	4191	56.032	-10.019	77.688	1.00	34.46
ATOM	7851	CD1	LEU	4191	56.150	-11.544	77.615	1.00	33.22
ATOM	7852	CD2	LEU	4191	57.385	-9.391	77.349	1.00	32.66
ATOM	7853	C	LEU	4191	53.466	-8.174	75.306	1.00	33.56
ATOM	7854	O	LEU	4191	52.279	-8.128	75.626	1.00	33.00
ATOM	7855	N	LYS	4192	53.868	-8.229	74.042	1.00	33.71
ATOM	7856	CA	LYS	4192	52.913	-8.317	72.950	1.00	33.63
ATOM	7857	CB	LYS	4192	53.070	-7.155	71.972	1.00	32.49
ATOM	7858	CG	LYS	4192	52.039	-7.189	70.848	1.00	30.53
ATOM	7859	CD	LYS	4192	52.232	-6.074	69.831	1.00	28.08
ATOM	7860	CE	LYS	4192	51.363	-6.321	68.594	1.00	26.51
ATOM	7861	NZ	LYS	4192	51.408	-5.234	67.570	1.00	25.16
ATOM	7862	C	LYS	4192	53.234	-9.628	72.252	1.00	34.51
ATOM	7863	O	LYS	4192	54.296	-9.772	71.654	1.00	34.65
ATOM	7864	N	ASN	4193	52.327	-10.590	72.354	1.00	35.33
ATOM	7865	CA	ASN	4193	52.544	-11.888	71.743	1.00	36.53
ATOM	7866	CB	ASN	4193	52.672	-11.743	70.227	1.00	36.72
ATOM	7867	CG	ASN	4193	51.412	-11.196	69.588	1.00	38.18
ATOM	7868	OD1	ASN	4193	50.296	-11.523	70.014	1.00	39.60

ATOM	7869	ND2	ASN	4193	51.576	-10.378	68.550	1.00	36.90
ATOM	7870	C	ASN	4193	53.798	-12.565	72.304	1.00	37.39
ATOM	7871	O	ASN	4193	54.579	-13.160	71.556	1.00	37.13
ATOM	7872	N	GLY	4194	53.987	-12.459	73.620	1.00	38.08
ATOM	7873	CA	GLY	4194	55.126	-13.091	74.263	1.00	38.95
ATOM	7874	C	GLY	4194	56.471	-12.398	74.133	1.00	40.04
ATOM	7875	O	GLY	4194	57.423	-12.761	74.823	1.00	39.97
ATOM	7876	N	LYS	4195	56.570	-11.403	73.263	1.00	40.68
ATOM	7877	CA	LYS	4195	57.838	-10.709	73.090	1.00	41.09
ATOM	7878	CB	LYS	4195	58.137	-10.541	71.592	1.00	41.17
ATOM	7879	C	LYS	4195	57.848	-9.355	73.798	1.00	41.53
ATOM	7880	O	LYS	4195	56.824	-8.898	74.313	1.00	41.62
ATOM	7881	N	GLU	4196	59.014	-8.720	73.838	1.00	42.10
ATOM	7882	CA	GLU	4196	59.125	-7.417	74.475	1.00	43.11
ATOM	7883	CB	GLU	4196	60.592	-6.955	74.533	1.00	44.94
ATOM	7884	CG	GLU	4196	60.746	-5.461	74.862	1.00	47.89
ATOM	7885	CD	GLU	4196	62.182	-5.036	75.152	1.00	49.90
ATOM	7886	OE1	GLU	4196	63.112	-5.552	74.488	1.00	51.03
ATOM	7887	OE2	GLU	4196	62.380	-4.169	76.036	1.00	50.90
ATOM	7888	C	GLU	4196	58.296	-6.411	73.686	1.00	42.58
ATOM	7889	O	GLU	4196	58.244	-6.467	72.458	1.00	43.01
ATOM	7890	N	PHE	4197	57.657	-5.490	74.394	1.00	41.70
ATOM	7891	CA	PHE	4197	56.826	-4.475	73.760	1.00	41.20
ATOM	7892	CB	PHE	4197	55.410	-4.556	74.324	1.00	40.41
ATOM	7893	CG	PHE	4197	54.389	-3.815	73.522	1.00	39.24
ATOM	7894	CD1	PHE	4197	53.216	-3.381	74.118	1.00	38.74
ATOM	7895	CD2	PHE	4197	54.574	-3.593	72.165	1.00	39.32
ATOM	7896	CE1	PHE	4197	52.238	-2.737	73.378	1.00	39.16
ATOM	7897	CE2	PHE	4197	53.596	-2.947	71.408	1.00	39.51
ATOM	7898	CZ	PHE	4197	52.425	-2.520	72.019	1.00	39.30
ATOM	7899	C	PHE	4197	57.389	-3.088	74.034	1.00	41.40
ATOM	7900	O	PHE	4197	57.455	-2.662	75.177	1.00	41.46
ATOM	7901	N	LYS	4198	57.797	-2.385	72.989	1.00	42.33
ATOM	7902	CA	LYS	4198	58.340	-1.044	73.148	1.00	42.49
ATOM	7903	CB	LYS	4198	59.743	-0.961	72.532	1.00	43.80
ATOM	7904	CG	LYS	4198	60.750	-1.931	73.134	1.00	46.19
ATOM	7905	CD	LYS	4198	62.183	-1.590	72.725	1.00	47.98
ATOM	7906	CE	LYS	4198	63.197	-2.410	73.532	1.00	49.16
ATOM	7907	NZ	LYS	4198	64.621	-1.994	73.312	1.00	49.73
ATOM	7908	C	LYS	4198	57.419	-0.043	72.459	1.00	42.18
ATOM	7909	O	LYS	4198	56.866	-0.326	71.394	1.00	41.91
ATOM	7910	N	PRO	4199	57.247	1.143	73.060	1.00	41.66
ATOM	7911	CD	PRO	4199	58.003	1.660	74.206	1.00	41.49
ATOM	7912	CA	PRO	4199	56.386	2.188	72.497	1.00	41.50
ATOM	7913	CB	PRO	4199	56.707	3.401	73.377	1.00	41.49
ATOM	7914	CG	PRO	4199	58.102	3.121	73.854	1.00	41.75
ATOM	7915	C	PRO	4199	56.611	2.448	71.007	1.00	41.24
ATOM	7916	O	PRO	4199	55.677	2.794	70.288	1.00	40.96
ATOM	7917	N	ASP	4200	57.839	2.270	70.542	1.00	41.42
ATOM	7918	CA	ASP	4200	58.151	2.492	69.127	1.00	41.34
ATOM	7919	CB	ASP	4200	59.669	2.472	68.892	1.00	42.51
ATOM	7920	CG	ASP	4200	60.294	3.867	68.858	1.00	44.82
ATOM	7921	OD1	ASP	4200	59.567	4.879	68.685	1.00	45.34
ATOM	7922	OD2	ASP	4200	61.540	3.947	68.984	1.00	46.30
ATOM	7923	C	ASP	4200	57.542	1.421	68.234	1.00	40.39
ATOM	7924	O	ASP	4200	57.636	1.508	67.010	1.00	40.23
ATOM	7925	N	HIS	4201	56.939	0.401	68.833	1.00	39.21
ATOM	7926	CA	HIS	4201	56.359	-0.671	68.033	1.00	38.50
ATOM	7927	CB	HIS	4201	56.183	-1.937	68.871	1.00	38.75
ATOM	7928	CG	HIS	4201	57.478	-2.580	69.248	1.00	39.47
ATOM	7929	CD2	HIS	4201	57.791	-3.454	70.233	1.00	39.83
ATOM	7930	ND1	HIS	4201	58.653	-2.329	68.569	1.00	39.31

ATOM	7931	CE1	HIS	4201	59.633	-3.018	69.126	1.00	39.96
ATOM	7932	NE2	HIS	4201	59.136	-3.707	70.136	1.00	40.96
ATOM	7933	C	HIS	4201	55.046	-0.290	67.374	1.00	37.52
ATOM	7934	O	HIS	4201	54.533	-1.024	66.536	1.00	37.00
ATOM	7935	N	ARG	4202	54.495	0.856	67.752	1.00	36.56
ATOM	7936	CA	ARG	4202	53.260	1.311	67.137	1.00	35.61
ATOM	7937	CB	ARG	4202	52.041	0.843	67.942	1.00	34.07
ATOM	7938	CG	ARG	4202	51.782	1.561	69.239	1.00	31.36
ATOM	7939	CD	ARG	4202	50.716	0.817	70.017	1.00	30.34
ATOM	7940	NE	ARG	4202	49.425	0.750	69.334	1.00	27.90
ATOM	7941	CZ	ARG	4202	48.525	1.734	69.317	1.00	27.48
ATOM	7942	NH1	ARG	4202	48.765	2.877	69.943	1.00	24.74
ATOM	7943	NH2	ARG	4202	47.370	1.572	68.683	1.00	26.76
ATOM	7944	C	ARG	4202	53.284	2.824	67.033	1.00	35.89
ATOM	7945	O	ARG	4202	53.845	3.502	67.885	1.00	35.67
ATOM	7946	N	ILE	4203	52.690	3.358	65.974	1.00	36.51
ATOM	7947	CA	ILE	4203	52.671	4.795	65.806	1.00	37.34
ATOM	7948	CB	ILE	4203	52.034	5.198	64.458	1.00	37.30
ATOM	7949	CG2	ILE	4203	50.558	4.925	64.470	1.00	38.05
ATOM	7950	CG1	ILE	4203	52.251	6.689	64.188	1.00	38.22
ATOM	7951	CD1	ILE	4203	53.670	7.065	63.839	1.00	37.31
ATOM	7952	C	ILE	4203	51.906	5.423	66.976	1.00	38.57
ATOM	7953	O	ILE	4203	50.781	5.023	67.319	1.00	39.04
ATOM	7954	N	GLY	4204	52.538	6.402	67.608	1.00	39.04
ATOM	7955	CA	GLY	4204	51.921	7.057	68.745	1.00	39.47
ATOM	7956	C	GLY	4204	52.291	6.365	70.047	1.00	39.68
ATOM	7957	O	GLY	4204	52.046	6.891	71.128	1.00	39.64
ATOM	7958	N	GLY	4205	52.883	5.180	69.938	1.00	39.30
ATOM	7959	CA	GLY	4205	53.271	4.436	71.115	1.00	38.53
ATOM	7960	C	GLY	4205	52.114	4.122	72.043	1.00	38.04
ATOM	7961	O	GLY	4205	50.966	4.031	71.629	1.00	38.21
ATOM	7962	N	TYR	4206	52.433	3.947	73.317	1.00	37.75
ATOM	7963	CA	TYR	4206	51.437	3.645	74.331	1.00	37.48
ATOM	7964	CB	TYR	4206	51.255	2.131	74.460	1.00	35.28
ATOM	7965	CG	TYR	4206	52.526	1.392	74.779	1.00	33.44
ATOM	7966	CD1	TYR	4206	53.220	0.689	73.793	1.00	33.43
ATOM	7967	CE1	TYR	4206	54.402	0.012	74.091	1.00	33.76
ATOM	7968	CD2	TYR	4206	53.042	1.403	76.065	1.00	33.42
ATOM	7969	CE2	TYR	4206	54.215	0.737	76.373	1.00	33.70
ATOM	7970	CZ	TYR	4206	54.893	0.045	75.389	1.00	33.58
ATOM	7971	OH	TYR	4206	56.068	-0.584	75.725	1.00	33.58
ATOM	7972	C	TYR	4206	51.896	4.227	75.668	1.00	38.11
ATOM	7973	O	TYR	4206	53.037	4.651	75.807	1.00	37.77
ATOM	7974	N	LYS	4207	51.005	4.250	76.651	1.00	39.15
ATOM	7975	CA	LYS	4207	51.358	4.776	77.955	1.00	40.38
ATOM	7976	CB	LYS	4207	50.595	6.063	78.246	1.00	41.12
ATOM	7977	CG	LYS	4207	50.383	6.332	79.728	1.00	43.61
ATOM	7978	CD	LYS	4207	48.879	6.513	80.015	1.00	46.81
ATOM	7979	CE	LYS	4207	48.534	6.581	81.520	1.00	47.54
ATOM	7980	NZ	LYS	4207	47.102	6.959	81.783	1.00	47.13
ATOM	7981	C	LYS	4207	51.109	3.780	79.073	1.00	41.20
ATOM	7982	O	LYS	4207	50.051	3.154	79.156	1.00	41.62
ATOM	7983	N	VAL	4208	52.101	3.639	79.939	1.00	41.48
ATOM	7984	CA	VAL	4208	52.000	2.736	81.070	1.00	41.64
ATOM	7985	CB	VAL	4208	53.236	1.816	81.147	1.00	41.16
ATOM	7986	CG1	VAL	4208	53.103	0.855	82.302	1.00	41.18
ATOM	7987	CG2	VAL	4208	53.387	1.048	79.857	1.00	41.19
ATOM	7988	C	VAL	4208	51.913	3.562	82.351	1.00	42.21
ATOM	7989	O	VAL	4208	52.874	4.224	82.720	1.00	42.28
ATOM	7990	N	ARG	4209	50.754	3.559	83.005	1.00	42.95
ATOM	7991	CA	ARG	4209	50.609	4.293	84.257	1.00	43.59
ATOM	7992	CB	ARG	4209	49.243	4.992	84.344	1.00	44.90

ATOM	7993	CG	ARG	4209	49.057	5.876	85.596	1.00	47.55
ATOM	7994	CD	ARG	4209	50.115	6.999	85.700	1.00	50.42
ATOM	7995	NE	ARG	4209	49.543	8.350	85.560	1.00	52.46
ATOM	7996	CZ	ARG	4209	50.258	9.476	85.437	1.00	52.91
ATOM	7997	NH1	ARG	4209	51.589	9.438	85.434	1.00	52.46
ATOM	7998	NH2	ARG	4209	49.641	10.649	85.297	1.00	52.43
ATOM	7999	C	ARG	4209	50.760	3.238	85.348	1.00	43.36
ATOM	8000	O	ARG	4209	49.867	2.421	85.581	1.00	43.61
ATOM	8001	N	TYR	4210	51.911	3.242	86.007	1.00	42.62
ATOM	8002	CA	TYR	4210	52.173	2.261	87.041	1.00	41.53
ATOM	8003	CB	TYR	4210	53.628	2.336	87.489	1.00	41.84
ATOM	8004	CG	TYR	4210	54.593	2.047	86.364	1.00	42.55
ATOM	8005	CD1	TYR	4210	54.887	3.019	85.401	1.00	41.88
ATOM	8006	CE1	TYR	4210	55.745	2.750	84.344	1.00	41.89
ATOM	8007	CD2	TYR	4210	55.183	0.789	86.236	1.00	42.54
ATOM	8008	CE2	TYR	4210	56.043	0.505	85.174	1.00	43.32
ATOM	8009	CZ	TYR	4210	56.321	1.494	84.232	1.00	42.91
ATOM	8010	OH	TYR	4210	57.186	1.222	83.192	1.00	42.86
ATOM	8011	C	TYR	4210	51.270	2.359	88.240	1.00	41.29
ATOM	8012	O	TYR	4210	50.986	1.349	88.877	1.00	41.79
ATOM	8013	N	ALA	4211	50.810	3.564	88.551	1.00	40.80
ATOM	8014	CA	ALA	4211	49.938	3.748	89.703	1.00	40.57
ATOM	8015	CB	ALA	4211	49.610	5.219	89.884	1.00	40.78
ATOM	8016	C	ALA	4211	48.652	2.934	89.550	1.00	40.65
ATOM	8017	O	ALA	4211	48.080	2.467	90.539	1.00	40.67
ATOM	8018	N	THR	4212	48.200	2.766	88.311	1.00	40.06
ATOM	8019	CA	THR	4212	46.985	2.008	88.052	1.00	39.11
ATOM	8020	CB	THR	4212	45.984	2.796	87.160	1.00	39.65
ATOM	8021	OG1	THR	4212	46.626	3.225	85.947	1.00	39.21
ATOM	8022	CG2	THR	4212	45.443	4.000	87.915	1.00	39.45
ATOM	8023	C	THR	4212	47.265	0.672	87.387	1.00	38.62
ATOM	8024	O	THR	4212	46.342	0.000	86.939	1.00	38.56
ATOM	8025	N	TRP	4213	48.537	0.289	87.319	1.00	37.95
ATOM	8026	CA	TRP	4213	48.915	-0.983	86.710	1.00	37.01
ATOM	8027	CB	TRP	4213	48.481	-2.140	87.609	1.00	35.55
ATOM	8028	CG	TRP	4213	48.982	-2.008	88.986	1.00	34.65
ATOM	8029	CD2	TRP	4213	50.235	-2.480	89.475	1.00	34.08
ATOM	8030	CE2	TRP	4213	50.340	-2.064	90.817	1.00	33.49
ATOM	8031	CE3	TRP	4213	51.283	-3.212	88.906	1.00	34.10
ATOM	8032	CD1	TRP	4213	48.386	-1.344	90.022	1.00	34.03
ATOM	8033	NE1	TRP	4213	49.198	-1.374	91.126	1.00	33.55
ATOM	8034	CZ2	TRP	4213	51.453	-2.356	91.601	1.00	33.61
ATOM	8035	CZ3	TRP	4213	52.389	-3.503	89.685	1.00	34.56
ATOM	8036	CH2	TRP	4213	52.466	-3.074	91.021	1.00	33.89
ATOM	8037	C	TRP	4213	48.249	-1.142	85.356	1.00	36.65
ATOM	8038	O	TRP	4213	47.682	-2.193	85.055	1.00	36.95
ATOM	8039	N	SER	4214	48.326	-0.105	84.536	1.00	36.50
ATOM	8040	CA	SER	4214	47.679	-0.137	83.231	1.00	36.33
ATOM	8041	CB	SER	4214	46.480	0.805	83.215	1.00	36.12
ATOM	8042	OG	SER	4214	45.602	0.543	84.287	1.00	39.08
ATOM	8043	C	SER	4214	48.555	0.262	82.070	1.00	35.75
ATOM	8044	O	SER	4214	49.588	0.910	82.240	1.00	36.25
ATOM	8045	N	ILE	4215	48.109	-0.133	80.884	1.00	34.56
ATOM	8046	CA	ILE	4215	48.766	0.206	79.643	1.00	33.68
ATOM	8047	CB	ILE	4215	49.424	-1.022	78.968	1.00	33.95
ATOM	8048	CG2	ILE	4215	48.396	-2.095	78.668	1.00	34.28
ATOM	8049	CG1	ILE	4215	50.103	-0.586	77.673	1.00	34.61
ATOM	8050	CD1	ILE	4215	51.157	-1.552	77.180	1.00	35.16
ATOM	8051	C	ILE	4215	47.636	0.754	78.787	1.00	33.46
ATOM	8052	O	ILE	4215	46.552	0.177	78.743	1.00	33.51
ATOM	8053	N	ILE	4216	47.879	1.890	78.140	1.00	33.41
ATOM	8054	CA	ILE	4216	46.866	2.533	77.309	1.00	33.11

ATOM	8055	CB	ILE	4216	46.575	3.992	77.762	1.00	32.84
ATOM	8056	CG2	ILE	4216	45.296	4.482	77.117	1.00	31.62
ATOM	8057	CG1	ILE	4216	46.442	4.085	79.279	1.00	33.97
ATOM	8058	CD1	ILE	4216	45.094	3.629	79.824	1.00	35.66
ATOM	8059	C	ILE	4216	47.343	2.642	75.874	1.00	33.30
ATOM	8060	O	ILE	4216	48.452	3.123	75.626	1.00	33.41
ATOM	8061	N	MSE	4217	46.514	2.202	74.933	1.00	32.69
ATOM	8062	CA	MSE	4217	46.859	2.312	73.524	1.00	32.07
ATOM	8063	CB	MSE	4217	46.938	0.939	72.844	1.00	31.19
ATOM	8064	CG	MSE	4217	48.119	0.092	73.267	1.00	30.07
ATOM	8065	SE	MSE	4217	48.353	-1.342	72.181	1.00	30.17
ATOM	8066	CE	MSE	4217	47.265	-2.474	72.982	1.00	30.18
ATOM	8067	C	MSE	4217	45.760	3.140	72.886	1.00	32.49
ATOM	8068	O	MSE	4217	44.587	2.770	72.942	1.00	32.79
ATOM	8069	N	ASP	4218	46.133	4.278	72.312	1.00	32.42
ATOM	8070	CA	ASP	4218	45.150	5.120	71.660	1.00	32.43
ATOM	8071	CB	ASP	4218	45.549	6.587	71.720	1.00	34.71
ATOM	8072	CG	ASP	4218	44.965	7.298	72.922	1.00	37.11
ATOM	8073	OD1	ASP	4218	44.051	6.733	73.565	1.00	39.13
ATOM	8074	OD2	ASP	4218	45.405	8.429	73.216	1.00	37.76
ATOM	8075	C	ASP	4218	44.987	4.703	70.211	1.00	31.55
ATOM	8076	O	ASP	4218	45.926	4.215	69.583	1.00	31.19
ATOM	8077	N	SER	4219	43.774	4.875	69.701	1.00	30.56
ATOM	8078	CA	SER	4219	43.450	4.552	68.315	1.00	29.54
ATOM	8079	CB	SER	4219	43.989	5.667	67.409	1.00	28.99
ATOM	8080	OG	SER	4219	43.644	5.452	66.047	1.00	29.88
ATOM	8081	C	SER	4219	43.976	3.193	67.817	1.00	28.86
ATOM	8082	O	SER	4219	44.797	3.146	66.897	1.00	28.28
ATOM	8083	N	VAL	4220	43.503	2.089	68.386	1.00	27.68
ATOM	8084	CA	VAL	4220	44.009	0.794	67.935	1.00	27.42
ATOM	8085	CB	VAL	4220	43.547	-0.408	68.833	1.00	26.40
ATOM	8086	CG1	VAL	4220	43.912	-0.144	70.271	1.00	26.34
ATOM	8087	CG2	VAL	4220	42.053	-0.657	68.689	1.00	26.39
ATOM	8088	C	VAL	4220	43.635	0.501	66.462	1.00	27.31
ATOM	8089	O	VAL	4220	42.620	0.969	65.975	1.00	27.45
ATOM	8090	N	VAL	4221	44.486	-0.265	65.813	1.00	26.91
ATOM	8091	CA	VAL	4221	44.261	-0.629	64.428	1.00	26.86
ATOM	8092	CB	VAL	4221	45.163	0.176	63.467	1.00	26.24
ATOM	8093	CG1	VAL	4221	44.701	1.617	63.441	1.00	25.22
ATOM	8094	CG2	VAL	4221	46.618	0.075	63.897	1.00	25.02
ATOM	8095	C	VAL	4221	44.541	-2.109	64.293	1.00	27.45
ATOM	8096	O	VAL	4221	45.107	-2.720	65.197	1.00	28.86
ATOM	8097	N	PRO	4222	44.156	-2.711	63.163	1.00	27.42
ATOM	8098	CD	PRO	4222	43.557	-2.110	61.963	1.00	28.16
ATOM	8099	CA	PRO	4222	44.377	-4.144	62.950	1.00	27.83
ATOM	8100	CB	PRO	4222	44.110	-4.322	61.460	1.00	27.16
ATOM	8101	CG	PRO	4222	43.057	-3.335	61.208	1.00	27.80
ATOM	8102	C	PRO	4222	45.736	-4.706	63.365	1.00	28.20
ATOM	8103	O	PRO	4222	45.799	-5.823	63.874	1.00	28.54
ATOM	8104	N	SER	4223	46.813	-3.948	63.156	1.00	28.13
ATOM	8105	CA	SER	4223	48.145	-4.426	63.517	1.00	28.31
ATOM	8106	CB	SER	4223	49.220	-3.546	62.872	1.00	28.40
ATOM	8107	OG	SER	4223	49.043	-2.184	63.218	1.00	28.35
ATOM	8108	C	SER	4223	48.361	-4.485	65.027	1.00	28.55
ATOM	8109	O	SER	4223	49.387	-4.973	65.495	1.00	27.53
ATOM	8110	N	ASP	4224	47.405	-3.981	65.797	1.00	29.04
ATOM	8111	CA	ASP	4224	47.556	-4.049	67.239	1.00	29.81
ATOM	8112	CB	ASP	4224	46.916	-2.843	67.910	1.00	30.46
ATOM	8113	CG	ASP	4224	47.563	-1.554	67.488	1.00	32.25
ATOM	8114	OD1	ASP	4224	48.815	-1.535	67.379	1.00	33.00
ATOM	8115	OD2	ASP	4224	46.829	-0.566	67.264	1.00	32.98
ATOM	8116	C	ASP	4224	46.952	-5.345	67.758	1.00	29.74

ATOM	8117	O	ASP	4224	47.104	-5.683	68.923	1.00	29.28
ATOM	8118	N	LYS	4225	46.272	-6.076	66.883	1.00	29.54
ATOM	8119	CA	LYS	4225	45.674	-7.341	67.276	1.00	30.25
ATOM	8120	CB	LYS	4225	44.994	-8.010	66.084	1.00	30.41
ATOM	8121	CG	LYS	4225	43.786	-7.247	65.581	1.00	31.98
ATOM	8122	CD	LYS	4225	42.795	-8.135	64.844	1.00	32.21
ATOM	8123	CE	LYS	4225	43.398	-8.794	63.625	1.00	33.51
ATOM	8124	NZ	LYS	4225	42.323	-9.233	62.696	1.00	34.72
ATOM	8125	C	LYS	4225	46.728	-8.280	67.861	1.00	30.96
ATOM	8126	O	LYS	4225	47.854	-8.355	67.368	1.00	31.27
ATOM	8127	N	GLY	4226	46.362	-8.993	68.921	1.00	31.16
ATOM	8128	CA	GLY	4226	47.296	-9.910	69.542	1.00	31.59
ATOM	8129	C	GLY	4226	47.051	-10.141	71.023	1.00	32.15
ATOM	8130	O	GLY	4226	46.049	-9.694	71.585	1.00	32.06
ATOM	8131	N	ASN	4227	47.970	-10.859	71.661	1.00	32.44
ATOM	8132	CA	ASN	4227	47.845	-11.129	73.080	1.00	32.63
ATOM	8133	CB	ASN	4227	48.180	-12.586	73.397	1.00	31.91
ATOM	8134	CG	ASN	4227	47.153	-13.546	72.828	1.00	33.37
ATOM	8135	OD1	ASN	4227	45.950	-13.374	73.028	1.00	34.47
ATOM	8136	ND2	ASN	4227	47.620	-14.563	72.112	1.00	33.39
ATOM	8137	C	ASN	4227	48.769	-10.208	73.834	1.00	32.62
ATOM	8138	O	ASN	4227	49.920	-10.013	73.459	1.00	33.21
ATOM	8139	N	TYR	4228	48.254	-9.618	74.893	1.00	32.23
ATOM	8140	CA	TYR	4228	49.069	-8.740	75.685	1.00	32.55
ATOM	8141	CB	TYR	4228	48.489	-7.328	75.666	1.00	31.88
ATOM	8142	CG	TYR	4228	48.552	-6.678	74.292	1.00	32.03
ATOM	8143	CD1	TYR	4228	47.778	-7.154	73.230	1.00	31.48
ATOM	8144	CE1	TYR	4228	47.815	-6.546	71.983	1.00	30.10
ATOM	8145	CD2	TYR	4228	49.372	-5.568	74.058	1.00	32.13
ATOM	8146	CE2	TYR	4228	49.411	-4.955	72.816	1.00	31.07
ATOM	8147	CZ	TYR	4228	48.629	-5.450	71.783	1.00	30.54
ATOM	8148	OH	TYR	4228	48.678	-4.844	70.550	1.00	30.38
ATOM	8149	C	TYR	4228	49.146	-9.310	77.089	1.00	33.31
ATOM	8150	O	TYR	4228	48.129	-9.551	77.746	1.00	33.33
ATOM	8151	N	THR	4229	50.376	-9.555	77.526	1.00	34.33
ATOM	8152	CA	THR	4229	50.632	-10.116	78.840	1.00	35.13
ATOM	8153	CB	THR	4229	51.509	-11.352	78.752	1.00	34.68
ATOM	8154	OG1	THR	4229	50.860	-12.337	77.945	1.00	36.14
ATOM	8155	CG2	THR	4229	51.765	-11.910	80.135	1.00	34.19
ATOM	8156	C	THR	4229	51.338	-9.148	79.762	1.00	36.17
ATOM	8157	O	THR	4229	52.315	-8.512	79.382	1.00	37.31
ATOM	8158	N	CYS	4230	50.837	-9.049	80.983	1.00	37.00
ATOM	8159	CA	CYS	4230	51.437	-8.190	81.981	1.00	38.19
ATOM	8160	CB	CYS	4230	50.355	-7.462	82.780	1.00	38.20
ATOM	8161	SG	CYS	4230	49.342	-8.562	83.786	1.00	38.53
ATOM	8162	C	CYS	4230	52.218	-9.115	82.911	1.00	39.00
ATOM	8163	O	CYS	4230	51.748	-10.197	83.260	1.00	38.74
ATOM	8164	N	ILE	4231	53.411	-8.687	83.299	1.00	40.04
ATOM	8165	CA	ILE	4231	54.255	-9.461	84.192	1.00	40.81
ATOM	8166	CB	ILE	4231	55.582	-9.815	83.533	1.00	40.38
ATOM	8167	CG2	ILE	4231	56.494	-10.478	84.540	1.00	39.21
ATOM	8168	CG1	ILE	4231	55.327	-10.714	82.329	1.00	40.35
ATOM	8169	CD1	ILE	4231	56.577	-11.069	81.564	1.00	40.79
ATOM	8170	C	ILE	4231	54.559	-8.635	85.428	1.00	41.93
ATOM	8171	O	ILE	4231	55.290	-7.647	85.354	1.00	41.40
ATOM	8172	N	VAL	4232	53.982	-9.040	86.555	1.00	43.22
ATOM	8173	CA	VAL	4232	54.185	-8.354	87.824	1.00	44.85
ATOM	8174	CB	VAL	4232	52.854	-8.169	88.569	1.00	44.31
ATOM	8175	CG1	VAL	4232	53.094	-7.520	89.918	1.00	43.77
ATOM	8176	CG2	VAL	4232	51.922	-7.309	87.731	1.00	44.31
ATOM	8177	C	VAL	4232	55.128	-9.189	88.675	1.00	46.31
ATOM	8178	O	VAL	4232	54.838	-10.345	88.974	1.00	46.47

ATOM	8179	N	GLU	4233	56.257	-8.611	89.070	1.00	47.92
ATOM	8180	CA	GLU	4233	57.215	-9.368	89.853	1.00	49.67
ATOM	8181	CB	GLU	4233	58.094	-10.187	88.899	1.00	50.76
ATOM	8182	CG	GLU	4233	58.834	-9.351	87.858	1.00	54.07
ATOM	8183	CD	GLU	4233	59.401	-10.176	86.693	1.00	55.52
ATOM	8184	OE1	GLU	4233	59.888	-11.306	86.940	1.00	56.69
ATOM	8185	OE2	GLU	4233	59.369	-9.682	85.535	1.00	55.80
ATOM	8186	C	GLU	4233	58.096	-8.555	90.792	1.00	49.83
ATOM	8187	O	GLU	4233	58.290	-7.354	90.611	1.00	49.22
ATOM	8188	N	ASN	4234	58.594	-9.240	91.819	1.00	50.52
ATOM	8189	CA	ASN	4234	59.512	-8.674	92.796	1.00	50.90
ATOM	8190	CB	ASN	4234	58.771	-8.066	93.997	1.00	50.08
ATOM	8191	CG	ASN	4234	58.130	-9.106	94.906	1.00	49.29
ATOM	8192	OD1	ASN	4234	58.459	-10.295	94.869	1.00	47.91
ATOM	8193	ND2	ASN	4234	57.220	-8.644	95.755	1.00	48.70
ATOM	8194	C	ASN	4234	60.419	-9.832	93.211	1.00	52.10
ATOM	8195	O	ASN	4234	60.249	-10.949	92.724	1.00	52.61
ATOM	8196	N	GLU	4235	61.379	-9.575	94.093	1.00	53.29
ATOM	8197	CA	GLU	4235	62.324	-10.607	94.537	1.00	53.78
ATOM	8198	CB	GLU	4235	63.187	-10.070	95.683	1.00	54.71
ATOM	8199	CG	GLU	4235	63.910	-8.765	95.387	1.00	57.27
ATOM	8200	CD	GLU	4235	64.385	-8.058	96.657	1.00	58.65
ATOM	8201	OE1	GLU	4235	63.516	-7.673	97.481	1.00	59.03
ATOM	8202	OE2	GLU	4235	65.617	-7.888	96.829	1.00	58.24
ATOM	8203	C	GLU	4235	61.682	-11.909	95.008	1.00	53.62
ATOM	8204	O	GLU	4235	62.287	-12.977	94.913	1.00	53.31
ATOM	8205	N	TYR	4236	60.452	-11.819	95.503	1.00	53.50
ATOM	8206	CA	TYR	4236	59.755	-12.978	96.046	1.00	52.99
ATOM	8207	CB	TYR	4236	59.008	-12.544	97.309	1.00	51.86
ATOM	8208	CG	TYR	4236	59.933	-11.973	98.354	1.00	50.96
ATOM	8209	CD1	TYR	4236	60.397	-10.668	98.260	1.00	50.43
ATOM	8210	CE1	TYR	4236	61.313	-10.169	99.169	1.00	50.55
ATOM	8211	CD2	TYR	4236	60.409	-12.768	99.395	1.00	50.52
ATOM	8212	CE2	TYR	4236	61.325	-12.282	100.308	1.00	50.43
ATOM	8213	CZ	TYR	4236	61.774	-10.984	100.191	1.00	50.72
ATOM	8214	OH	TYR	4236	62.692	-10.503	101.097	1.00	50.94
ATOM	8215	C	TYR	4236	58.813	-13.758	95.134	1.00	52.90
ATOM	8216	O	TYR	4236	58.279	-14.799	95.531	1.00	53.18
ATOM	8217	N	GLY	4237	58.601	-13.274	93.918	1.00	52.09
ATOM	8218	CA	GLY	4237	57.712	-13.995	93.030	1.00	51.39
ATOM	8219	C	GLY	4237	57.208	-13.191	91.857	1.00	50.83
ATOM	8220	O	GLY	4237	57.386	-11.971	91.800	1.00	51.45
ATOM	8221	N	SER	4238	56.575	-13.876	90.912	1.00	49.46
ATOM	8222	CA	SER	4238	56.046	-13.204	89.739	1.00	48.52
ATOM	8223	CB	SER	4238	57.059	-13.233	88.597	1.00	48.83
ATOM	8224	OG	SER	4238	56.831	-14.350	87.766	1.00	50.56
ATOM	8225	C	SER	4238	54.744	-13.824	89.264	1.00	47.25
ATOM	8226	O	SER	4238	54.583	-15.043	89.247	1.00	47.33
ATOM	8227	N	ILE	4239	53.814	-12.961	88.885	1.00	45.50
ATOM	8228	CA	ILE	4239	52.522	-13.388	88.384	1.00	44.11
ATOM	8229	CB	ILE	4239	51.385	-12.959	89.327	1.00	43.78
ATOM	8230	CG2	ILE	4239	51.587	-13.611	90.685	1.00	43.69
ATOM	8231	CG1	ILE	4239	51.336	-11.432	89.444	1.00	42.04
ATOM	8232	CD1	ILE	4239	50.270	-10.930	90.393	1.00	41.89
ATOM	8233	C	ILE	4239	52.303	-12.751	87.019	1.00	43.59
ATOM	8234	O	ILE	4239	53.037	-11.850	86.617	1.00	43.53
ATOM	8235	N	ASN	4240	51.295	-13.222	86.300	1.00	43.01
ATOM	8236	CA	ASN	4240	51.006	-12.674	84.987	1.00	42.09
ATOM	8237	CB	ASN	4240	51.998	-13.209	83.973	1.00	41.85
ATOM	8238	CG	ASN	4240	52.059	-14.707	83.973	1.00	41.98
ATOM	8239	OD1	ASN	4240	51.113	-15.382	83.572	1.00	42.56
ATOM	8240	ND2	ASN	4240	53.170	-15.244	84.436	1.00	42.67

ATOM	8241	C	ASN	4240	49.596	-12.991	84.531	1.00	41.72
ATOM	8242	O	ASN	4240	48.939	-13.887	85.061	1.00	40.95
ATOM	8243	N	HIS	4241	49.142	-12.237	83.538	1.00	41.41
ATOM	8244	CA	HIS	4241	47.811	-12.403	82.983	1.00	40.60
ATOM	8245	CB	HIS	4241	46.825	-11.496	83.705	1.00	41.26
ATOM	8246	CG	HIS	4241	45.393	-11.818	83.417	1.00	43.06
ATOM	8247	CD2	HIS	4241	44.484	-11.209	82.618	1.00	42.94
ATOM	8248	ND1	HIS	4241	44.745	-12.895	83.983	1.00	43.33
ATOM	8249	CE1	HIS	4241	43.497	-12.934	83.549	1.00	43.09
ATOM	8250	NE2	HIS	4241	43.314	-11.923	82.719	1.00	43.49
ATOM	8251	C	HIS	4241	47.895	-11.994	81.528	1.00	40.25
ATOM	8252	O	HIS	4241	48.701	-11.137	81.172	1.00	40.67
ATOM	8253	N	THR	4242	47.075	-12.606	80.682	1.00	39.24
ATOM	8254	CA	THR	4242	47.087	-12.277	79.266	1.00	37.65
ATOM	8255	CB	THR	4242	47.631	-13.431	78.433	1.00	37.75
ATOM	8256	OG1	THR	4242	48.930	-13.791	78.913	1.00	38.35
ATOM	8257	CG2	THR	4242	47.729	-13.023	76.969	1.00	37.80
ATOM	8258	C	THR	4242	45.719	-11.923	78.725	1.00	37.28
ATOM	8259	O	THR	4242	44.745	-12.640	78.938	1.00	37.57
ATOM	8260	N	TYR	4243	45.655	-10.804	78.018	1.00	36.34
ATOM	8261	CA	TYR	4243	44.412	-10.357	77.422	1.00	35.42
ATOM	8262	CB	TYR	4243	44.175	-8.896	77.755	1.00	34.73
ATOM	8263	CG	TYR	4243	44.004	-8.612	79.216	1.00	33.78
ATOM	8264	CD1	TYR	4243	44.958	-7.888	79.914	1.00	33.62
ATOM	8265	CE1	TYR	4243	44.761	-7.524	81.244	1.00	33.55
ATOM	8266	CD2	TYR	4243	42.844	-8.987	79.884	1.00	34.18
ATOM	8267	CE2	TYR	4243	42.635	-8.634	81.212	1.00	33.61
ATOM	8268	CZ	TYR	4243	43.599	-7.896	81.884	1.00	33.75
ATOM	8269	OH	TYR	4243	43.389	-7.503	83.184	1.00	34.63
ATOM	8270	C	TYR	4243	44.530	-10.502	75.919	1.00	35.25
ATOM	8271	O	TYR	4243	45.626	-10.405	75.366	1.00	35.67
ATOM	8272	N	GLN	4244	43.416	-10.752	75.248	1.00	35.17
ATOM	8273	CA	GLN	4244	43.470	-10.855	73.802	1.00	34.91
ATOM	8274	CB	GLN	4244	42.784	-12.123	73.288	1.00	36.77
ATOM	8275	CG	GLN	4244	42.980	-12.299	71.770	1.00	40.07
ATOM	8276	CD	GLN	4244	42.248	-13.502	71.181	1.00	42.27
ATOM	8277	OE1	GLN	4244	41.644	-14.305	71.908	1.00	44.10
ATOM	8278	NE2	GLN	4244	42.302	-13.637	69.857	1.00	42.29
ATOM	8279	C	GLN	4244	42.789	-9.631	73.231	1.00	33.75
ATOM	8280	O	GLN	4244	41.683	-9.278	73.638	1.00	33.38
ATOM	8281	N	LEU	4245	43.471	-8.968	72.309	1.00	32.82
ATOM	8282	CA	LEU	4245	42.932	-7.780	71.681	1.00	32.23
ATOM	8283	CB	LEU	4245	43.960	-6.650	71.709	1.00	32.31
ATOM	8284	CG	LEU	4245	43.625	-5.419	70.849	1.00	33.45
ATOM	8285	CD1	LEU	4245	42.283	-4.840	71.259	1.00	32.44
ATOM	8286	CD2	LEU	4245	44.734	-4.371	70.990	1.00	33.75
ATOM	8287	C	LEU	4245	42.540	-8.075	70.246	1.00	31.65
ATOM	8288	O	LEU	4245	43.340	-8.569	69.452	1.00	31.23
ATOM	8289	N	ASP	4246	41.292	-7.776	69.923	1.00	31.78
ATOM	8290	CA	ASP	4246	40.782	-7.983	68.579	1.00	31.60
ATOM	8291	CB	ASP	4246	39.709	-9.063	68.595	1.00	31.28
ATOM	8292	CG	ASP	4246	39.308	-9.500	67.210	1.00	31.57
ATOM	8293	OD1	ASP	4246	38.394	-10.347	67.114	1.00	31.79
ATOM	8294	OD2	ASP	4246	39.899	-9.005	66.221	1.00	29.97
ATOM	8295	C	ASP	4246	40.195	-6.665	68.075	1.00	31.32
ATOM	8296	O	ASP	4246	39.348	-6.066	68.737	1.00	31.34
ATOM	8297	N	VAL	4247	40.667	-6.203	66.921	1.00	30.94
ATOM	8298	CA	VAL	4247	40.178	-4.957	66.341	1.00	30.64
ATOM	8299	CB	VAL	4247	41.336	-4.007	65.953	1.00	29.76
ATOM	8300	CG1	VAL	4247	40.794	-2.759	65.302	1.00	28.69
ATOM	8301	CG2	VAL	4247	42.135	-3.645	67.170	1.00	29.66
ATOM	8302	C	VAL	4247	39.378	-5.282	65.084	1.00	31.83

ATOM	8303	O	VAL	4247	39.862	-5.990	64.197	1.00	32.23
ATOM	8304	N	VAL	4248	38.156	-4.757	65.010	1.00	32.26
ATOM	8305	CA	VAL	4248	37.264	-4.989	63.867	1.00	32.81
ATOM	8306	CB	VAL	4248	35.873	-5.501	64.340	1.00	32.43
ATOM	8307	CG1	VAL	4248	34.888	-5.492	63.190	1.00	32.46
ATOM	8308	CG2	VAL	4248	35.990	-6.896	64.891	1.00	33.47
ATOM	8309	C	VAL	4248	37.019	-3.693	63.081	1.00	33.17
ATOM	8310	O	VAL	4248	36.651	-2.689	63.660	1.00	33.40
ATOM	8311	N	GLU	4249	37.182	-3.679	61.768	1.00	33.84
ATOM	8312	CA	GLU	4249	36.924	-2.425	61.045	1.00	34.40
ATOM	8313	CB	GLU	4249	37.877	-2.309	59.847	1.00	34.83
ATOM	8314	CG	GLU	4249	39.344	-2.426	60.256	1.00	36.55
ATOM	8315	CD	GLU	4249	40.318	-2.056	59.150	1.00	39.13
ATOM	8316	OE1	GLU	4249	40.634	-2.920	58.297	1.00	40.64
ATOM	8317	OE2	GLU	4249	40.771	-0.888	59.130	1.00	39.71
ATOM	8318	C	GLU	4249	35.458	-2.320	60.596	1.00	33.65
ATOM	8319	O	GLU	4249	34.837	-3.333	60.278	1.00	34.15
ATOM	8320	N	ARG	4250	34.899	-1.109	60.599	1.00	32.84
ATOM	8321	CA	ARG	4250	33.504	-0.914	60.182	1.00	33.16
ATOM	8322	CB	ARG	4250	32.709	-0.118	61.232	1.00	32.28
ATOM	8323	CG	ARG	4250	32.700	-0.684	62.657	1.00	31.28
ATOM	8324	CD	ARG	4250	32.366	-2.166	62.713	1.00	30.77
ATOM	8325	NE	ARG	4250	31.024	-2.499	62.245	1.00	30.24
ATOM	8326	CZ	ARG	4250	29.912	-2.359	62.962	1.00	31.10
ATOM	8327	NH1	ARG	4250	29.965	-1.883	64.196	1.00	31.16
ATOM	8328	NH2	ARG	4250	28.743	-2.718	62.451	1.00	31.07
ATOM	8329	C	ARG	4250	33.414	-0.178	58.834	1.00	34.09
ATOM	8330	O	ARG	4250	34.352	0.514	58.434	1.00	34.30
ATOM	8331	N	SER	4251	32.287	-0.341	58.141	1.00	34.95
ATOM	8332	CA	SER	4251	32.043	0.304	56.846	1.00	35.73
ATOM	8333	CB	SER	4251	32.136	-0.706	55.709	1.00	35.29
ATOM	8334	OG	SER	4251	33.432	-1.272	55.655	1.00	38.10
ATOM	8335	C	SER	4251	30.653	0.918	56.827	1.00	35.91
ATOM	8336	O	SER	4251	29.698	0.288	56.389	1.00	36.05
ATOM	8337	N	PRO	4252	30.529	2.165	57.298	1.00	36.23
ATOM	8338	CD	PRO	4252	31.640	2.988	57.810	1.00	35.96
ATOM	8339	CA	PRO	4252	29.266	2.907	57.358	1.00	36.03
ATOM	8340	CB	PRO	4252	29.559	3.964	58.411	1.00	35.84
ATOM	8341	CG	PRO	4252	30.962	4.337	58.067	1.00	36.40
ATOM	8342	C	PRO	4252	28.885	3.520	56.011	1.00	36.05
ATOM	8343	O	PRO	4252	28.773	4.739	55.877	1.00	36.52
ATOM	8344	N	HIS	4253	28.691	2.665	55.016	1.00	35.94
ATOM	8345	CA	HIS	4253	28.328	3.093	53.666	1.00	35.62
ATOM	8346	CB	HIS	4253	29.478	2.884	52.679	1.00	38.03
ATOM	8347	CG	HIS	4253	30.715	3.657	52.996	1.00	42.01
ATOM	8348	CD2	HIS	4253	31.282	4.720	52.377	1.00	43.13
ATOM	8349	ND1	HIS	4253	31.542	3.340	54.054	1.00	44.01
ATOM	8350	CE1	HIS	4253	32.567	4.176	54.071	1.00	44.30
ATOM	8351	NE2	HIS	4253	32.434	5.022	53.064	1.00	44.43
ATOM	8352	C	HIS	4253	27.195	2.233	53.154	1.00	34.14
ATOM	8353	O	HIS	4253	26.943	1.150	53.674	1.00	33.82
ATOM	8354	N	ARG	4254	26.539	2.702	52.101	1.00	32.61
ATOM	8355	CA	ARG	4254	25.465	1.931	51.508	1.00	31.56
ATOM	8356	CB	ARG	4254	24.775	2.743	50.410	1.00	31.74
ATOM	8357	CG	ARG	4254	25.624	3.051	49.205	1.00	31.47
ATOM	8358	CD	ARG	4254	24.852	3.991	48.329	1.00	33.11
ATOM	8359	NE	ARG	4254	25.081	3.769	46.907	1.00	36.52
ATOM	8360	CZ	ARG	4254	26.002	4.402	46.190	1.00	37.94
ATOM	8361	NH1	ARG	4254	26.787	5.299	46.773	1.00	38.95
ATOM	8362	NH2	ARG	4254	26.126	4.153	44.890	1.00	38.46
ATOM	8363	C	ARG	4254	26.096	0.662	50.940	1.00	30.31
ATOM	8364	O	ARG	4254	27.314	0.579	50.789	1.00	30.82

ATOM	8365	N	PRO	4255	25.282	-0.356	50.631	1.00	29.32
ATOM	8366	CD	PRO	4255	23.849	-0.548	50.916	1.00	28.41
ATOM	8367	CA	PRO	4255	25.897	-1.572	50.095	1.00	28.37
ATOM	8368	CB	PRO	4255	24.727	-2.559	49.995	1.00	27.41
ATOM	8369	CG	PRO	4255	23.505	-1.686	50.003	1.00	28.78
ATOM	8370	C	PRO	4255	26.643	-1.352	48.783	1.00	28.66
ATOM	8371	O	PRO	4255	26.349	-0.427	48.032	1.00	28.94
ATOM	8372	N	ILE	4256	27.635	-2.201	48.542	1.00	28.54
ATOM	8373	CA	ILE	4256	28.470	-2.137	47.356	1.00	28.76
ATOM	8374	CB	ILE	4256	29.957	-2.104	47.745	1.00	29.42
ATOM	8375	CG2	ILE	4256	30.822	-2.187	46.480	1.00	28.73
ATOM	8376	CG1	ILE	4256	30.261	-0.879	48.598	1.00	28.65
ATOM	8377	CD1	ILE	4256	31.685	-0.849	49.094	1.00	28.28
ATOM	8378	C	ILE	4256	28.278	-3.407	46.547	1.00	29.44
ATOM	8379	O	ILE	4256	28.437	-4.499	47.092	1.00	29.25
ATOM	8380	N	LEU	4257	27.961	-3.279	45.258	1.00	29.59
ATOM	8381	CA	LEU	4257	27.772	-4.462	44.413	1.00	30.28
ATOM	8382	CB	LEU	4257	26.526	-4.298	43.538	1.00	31.83
ATOM	8383	CG	LEU	4257	25.233	-3.896	44.256	1.00	31.86
ATOM	8384	CD1	LEU	4257	24.043	-4.028	43.318	1.00	32.53
ATOM	8385	CD2	LEU	4257	25.026	-4.777	45.453	1.00	32.23
ATOM	8386	C	LEU	4257	29.019	-4.649	43.537	1.00	31.29
ATOM	8387	O	LEU	4257	29.557	-3.670	43.008	1.00	31.75
ATOM	8388	N	GLN	4258	29.485	-5.893	43.387	1.00	31.31
ATOM	8389	CA	GLN	4258	30.689	-6.085	42.590	1.00	32.13
ATOM	8390	CB	GLN	4258	31.258	-7.500	42.667	1.00	33.85
ATOM	8391	CG	GLN	4258	32.533	-7.669	41.794	1.00	35.66
ATOM	8392	CD	GLN	4258	33.682	-6.690	42.145	1.00	37.42
ATOM	8393	OE1	GLN	4258	33.453	-5.653	42.767	1.00	39.34
ATOM	8394	NE2	GLN	4258	34.911	-7.014	41.726	1.00	36.97
ATOM	8395	C	GLN	4258	30.474	-5.740	41.134	1.00	32.61
ATOM	8396	O	GLN	4258	29.553	-6.232	40.489	1.00	32.50
ATOM	8397	N	ALA	4259	31.356	-4.884	40.623	1.00	32.68
ATOM	8398	CA	ALA	4259	31.281	-4.421	39.257	1.00	32.67
ATOM	8399	CB	ALA	4259	32.504	-3.569	38.879	1.00	31.94
ATOM	8400	C	ALA	4259	31.156	-5.607	38.317	1.00	32.89
ATOM	8401	O	ALA	4259	31.771	-6.663	38.534	1.00	32.92
ATOM	8402	N	GLY	4260	30.342	-5.441	37.277	1.00	32.68
ATOM	8403	CA	GLY	4260	30.175	-6.506	36.309	1.00	32.23
ATOM	8404	C	GLY	4260	29.040	-7.483	36.534	1.00	32.64
ATOM	8405	O	GLY	4260	28.693	-8.221	35.620	1.00	33.72
ATOM	8406	N	LEU	4261	28.454	-7.511	37.725	1.00	32.98
ATOM	8407	CA	LEU	4261	27.360	-8.445	37.977	1.00	32.81
ATOM	8408	CB	LEU	4261	27.796	-9.506	38.984	1.00	33.61
ATOM	8409	CG	LEU	4261	29.094	-10.234	38.626	1.00	34.82
ATOM	8410	CD1	LEU	4261	29.573	-11.062	39.816	1.00	35.54
ATOM	8411	CD2	LEU	4261	28.875	-11.112	37.398	1.00	34.63
ATOM	8412	C	LEU	4261	26.107	-7.737	38.479	1.00	33.03
ATOM	8413	O	LEU	4261	26.192	-6.814	39.294	1.00	32.77
ATOM	8414	N	PRO	4262	24.922	-8.160	37.988	1.00	32.72
ATOM	8415	CD	PRO	4262	23.617	-7.607	38.392	1.00	32.23
ATOM	8416	CA	PRO	4262	24.745	-9.245	37.005	1.00	32.53
ATOM	8417	CB	PRO	4262	23.237	-9.469	36.999	1.00	32.39
ATOM	8418	CG	PRO	4262	22.707	-8.098	37.274	1.00	32.77
ATOM	8419	C	PRO	4262	25.256	-8.848	35.632	1.00	32.65
ATOM	8420	O	PRO	4262	25.415	-7.666	35.342	1.00	33.33
ATOM	8421	N	ALA	4263	25.499	-9.834	34.781	1.00	33.35
ATOM	8422	CA	ALA	4263	26.001	-9.557	33.443	1.00	33.60
ATOM	8423	CB	ALA	4263	27.245	-10.373	33.180	1.00	33.10
ATOM	8424	C	ALA	4263	24.961	-9.833	32.366	1.00	34.18
ATOM	8425	O	ALA	4263	24.065	-10.659	32.552	1.00	33.73
ATOM	8426	N	ASN	4264	25.075	-9.122	31.246	1.00	35.01

ATOM	8427	CA	ASN	4264	24.139	-9.302	30.136	1.00	36.56
ATOM	8428	CB	ASN	4264	24.435	-8.318	28.998	1.00	36.07
ATOM	8429	CG	ASN	4264	23.999	-6.906	29.328	1.00	36.15
ATOM	8430	OD1	ASN	4264	23.048	-6.705	30.093	1.00	36.46
ATOM	8431	ND2	ASN	4264	24.675	-5.916	28.742	1.00	34.85
ATOM	8432	C	ASN	4264	24.249	-10.723	29.617	1.00	37.84
ATOM	8433	O	ASN	4264	25.337	-11.295	29.570	1.00	38.10
ATOM	8434	N	LYS	4265	23.119	-11.295	29.223	1.00	39.00
ATOM	8435	CA	LYS	4265	23.102	-12.662	28.717	1.00	40.10
ATOM	8436	CB	LYS	4265	22.514	-13.605	29.763	1.00	41.33
ATOM	8437	CG	LYS	4265	23.129	-13.512	31.132	1.00	41.86
ATOM	8438	CD	LYS	4265	24.322	-14.422	31.272	1.00	42.16
ATOM	8439	CE	LYS	4265	24.617	-14.611	32.744	1.00	42.74
ATOM	8440	NZ	LYS	4265	23.341	-14.922	33.455	1.00	43.82
ATOM	8441	C	LYS	4265	22.250	-12.790	27.471	1.00	41.02
ATOM	8442	O	LYS	4265	21.153	-12.226	27.391	1.00	41.34
ATOM	8443	N	THR	4266	22.756	-13.539	26.501	1.00	41.78
ATOM	8444	CA	THR	4266	22.013	-13.804	25.278	1.00	42.42
ATOM	8445	CB	THR	4266	22.768	-13.284	24.031	1.00	43.65
ATOM	8446	OG1	THR	4266	22.964	-11.867	24.155	1.00	45.12
ATOM	8447	CG2	THR	4266	21.976	-13.573	22.748	1.00	43.11
ATOM	8448	C	THR	4266	21.885	-15.327	25.252	1.00	42.40
ATOM	8449	O	THR	4266	22.893	-16.043	25.187	1.00	42.93
ATOM	8450	N	VAL	4267	20.655	-15.823	25.346	1.00	41.83
ATOM	8451	CA	VAL	4267	20.439	-17.262	25.352	1.00	42.05
ATOM	8452	CB	VAL	4267	20.108	-17.767	26.783	1.00	41.77
ATOM	8453	CG1	VAL	4267	21.092	-17.165	27.775	1.00	41.92
ATOM	8454	CG2	VAL	4267	18.673	-17.424	27.158	1.00	40.75
ATOM	8455	C	VAL	4267	19.339	-17.718	24.403	1.00	42.81
ATOM	8456	O	VAL	4267	18.484	-16.934	23.978	1.00	42.07
ATOM	8457	N	ALA	4268	19.375	-19.007	24.082	1.00	44.08
ATOM	8458	CA	ALA	4268	18.401	-19.616	23.191	1.00	45.49
ATOM	8459	CB	ALA	4268	18.947	-20.939	22.669	1.00	45.80
ATOM	8460	C	ALA	4268	17.103	-19.852	23.944	1.00	45.91
ATOM	8461	O	ALA	4268	17.119	-20.106	25.146	1.00	45.97
ATOM	8462	N	LEU	4269	15.981	-19.770	23.238	1.00	46.85
ATOM	8463	CA	LEU	4269	14.685	-19.991	23.867	1.00	47.72
ATOM	8464	CB	LEU	4269	13.576	-20.014	22.815	1.00	48.40
ATOM	8465	CG	LEU	4269	12.210	-19.430	23.188	1.00	48.24
ATOM	8466	CD1	LEU	4269	11.277	-19.590	21.995	1.00	48.55
ATOM	8467	CD2	LEU	4269	11.638	-20.118	24.413	1.00	48.44
ATOM	8468	C	LEU	4269	14.714	-21.332	24.587	1.00	48.41
ATOM	8469	O	LEU	4269	15.317	-22.298	24.105	1.00	48.84
ATOM	8470	N	GLY	4270	14.075	-21.387	25.748	1.00	48.96
ATOM	8471	CA	GLY	4270	14.032	-22.626	26.502	1.00	49.19
ATOM	8472	C	GLY	4270	15.258	-22.903	27.351	1.00	49.25
ATOM	8473	O	GLY	4270	15.310	-23.918	28.047	1.00	49.68
ATOM	8474	N	SER	4271	16.249	-22.018	27.299	1.00	48.97
ATOM	8475	CA	SER	4271	17.457	-22.211	28.096	1.00	49.34
ATOM	8476	CB	SER	4271	18.594	-21.299	27.610	1.00	49.53
ATOM	8477	OG	SER	4271	19.096	-21.685	26.345	1.00	50.54
ATOM	8478	C	SER	4271	17.202	-21.894	29.569	1.00	49.44
ATOM	8479	O	SER	4271	16.155	-21.343	29.935	1.00	49.11
ATOM	8480	N	ASN	4272	18.173	-22.260	30.405	1.00	49.10
ATOM	8481	CA	ASN	4272	18.131	-21.982	31.839	1.00	48.68
ATOM	8482	CB	ASN	4272	18.532	-23.203	32.673	1.00	48.99
ATOM	8483	CG	ASN	4272	17.538	-24.333	32.582	1.00	49.46
ATOM	8484	OD1	ASN	4272	16.329	-24.125	32.685	1.00	49.99
ATOM	8485	ND2	ASN	4272	18.043	-25.547	32.409	1.00	49.98
ATOM	8486	C	ASN	4272	19.199	-20.920	32.040	1.00	48.17
ATOM	8487	O	ASN	4272	20.304	-21.047	31.507	1.00	48.28
ATOM	8488	N	VAL	4273	18.891	-19.875	32.796	1.00	47.43

ATOM	8489	CA	VAL	4273	19.882	-18.837	33.016	1.00	47.20
ATOM	8490	CB	VAL	4273	19.639	-17.632	32.088	1.00	47.78
ATOM	8491	CG1	VAL	4273	18.180	-17.228	32.140	1.00	49.04
ATOM	8492	CG2	VAL	4273	20.536	-16.466	32.496	1.00	49.38
ATOM	8493	C	VAL	4273	19.897	-18.382	34.462	1.00	46.68
ATOM	8494	O	VAL	4273	18.872	-18.399	35.147	1.00	46.75
ATOM	8495	N	GLU	4274	21.077	-17.993	34.927	1.00	46.32
ATOM	8496	CA	GLU	4274	21.237	-17.539	36.297	1.00	46.11
ATOM	8497	CB	GLU	4274	21.977	-18.595	37.115	1.00	48.24
ATOM	8498	CG	GLU	4274	23.366	-18.915	36.587	1.00	51.52
ATOM	8499	CD	GLU	4274	24.124	-19.858	37.512	1.00	54.50
ATOM	8500	OE1	GLU	4274	23.563	-20.933	37.854	1.00	55.30
ATOM	8501	OE2	GLU	4274	25.274	-19.519	37.895	1.00	55.38
ATOM	8502	C	GLU	4274	22.009	-16.232	36.370	1.00	44.59
ATOM	8503	O	GLU	4274	23.146	-16.139	35.911	1.00	43.75
ATOM	8504	N	PHE	4275	21.378	-15.221	36.949	1.00	43.08
ATOM	8505	CA	PHE	4275	22.018	-13.931	37.104	1.00	41.79
ATOM	8506	CB	PHE	4275	20.983	-12.818	36.970	1.00	41.26
ATOM	8507	CG	PHE	4275	20.591	-12.519	35.551	1.00	39.42
ATOM	8508	CD1	PHE	4275	21.511	-11.965	34.666	1.00	39.12
ATOM	8509	CD2	PHE	4275	19.301	-12.774	35.102	1.00	38.78
ATOM	8510	CE1	PHE	4275	21.149	-11.667	33.350	1.00	39.31
ATOM	8511	CE2	PHE	4275	18.930	-12.480	33.791	1.00	38.50
ATOM	8512	CZ	PHE	4275	19.855	-11.926	32.911	1.00	38.65
ATOM	8513	C	PHE	4275	22.642	-13.916	38.487	1.00	41.74
ATOM	8514	O	PHE	4275	22.082	-14.467	39.434	1.00	41.78
ATOM	8515	N	MSE	4276	23.808	-13.301	38.603	1.00	42.11
ATOM	8516	CA	MSE	4276	24.483	-13.243	39.883	1.00	43.17
ATOM	8517	CB	MSE	4276	25.859	-13.897	39.791	1.00	45.71
ATOM	8518	CG	MSE	4276	25.837	-15.411	39.658	1.00	49.58
ATOM	8519	SE	MSE	4276	27.523	-15.985	39.385	1.00	54.60
ATOM	8520	CE	MSE	4276	28.273	-15.667	41.037	1.00	52.61
ATOM	8521	C	MSE	4276	24.650	-11.821	40.382	1.00	42.83
ATOM	8522	O	MSE	4276	24.603	-10.857	39.609	1.00	41.81
ATOM	8523	N	CYS	4277	24.858	-11.704	41.689	1.00	42.60
ATOM	8524	CA	CYS	4277	25.058	-10.413	42.323	1.00	42.37
ATOM	8525	CB	CYS	4277	23.721	-9.753	42.616	1.00	43.78
ATOM	8526	SG	CYS	4277	23.968	-8.039	43.081	1.00	49.21
ATOM	8527	C	CYS	4277	25.841	-10.539	43.623	1.00	41.33
ATOM	8528	O	CYS	4277	25.383	-11.173	44.578	1.00	41.69
ATOM	8529	N	LYS	4278	27.021	-9.930	43.654	1.00	40.30
ATOM	8530	CA	LYS	4278	27.875	-9.964	44.838	1.00	39.00
ATOM	8531	CB	LYS	4278	29.335	-10.196	44.421	1.00	41.27
ATOM	8532	CG	LYS	4278	29.601	-11.645	43.985	1.00	44.09
ATOM	8533	CD	LYS	4278	31.030	-11.859	43.488	1.00	45.93
ATOM	8534	CE	LYS	4278	31.209	-13.304	42.984	1.00	47.72
ATOM	8535	NZ	LYS	4278	32.561	-13.574	42.385	1.00	48.32
ATOM	8536	C	LYS	4278	27.733	-8.669	45.629	1.00	36.58
ATOM	8537	O	LYS	4278	28.093	-7.596	45.146	1.00	36.57
ATOM	8538	N	VAL	4279	27.213	-8.781	46.848	1.00	33.81
ATOM	8539	CA	VAL	4279	26.992	-7.616	47.688	1.00	31.09
ATOM	8540	CB	VAL	4279	25.530	-7.588	48.202	1.00	30.28
ATOM	8541	CG1	VAL	4279	25.299	-6.379	49.095	1.00	29.47
ATOM	8542	CG2	VAL	4279	24.578	-7.574	47.036	1.00	28.79
ATOM	8543	C	VAL	4279	27.903	-7.541	48.899	1.00	30.56
ATOM	8544	O	VAL	4279	28.202	-8.553	49.531	1.00	30.61
ATOM	8545	N	TYR	4280	28.340	-6.328	49.218	1.00	29.91
ATOM	8546	CA	TYR	4280	29.154	-6.096	50.394	1.00	28.61
ATOM	8547	CB	TYR	4280	30.548	-5.617	50.025	1.00	29.29
ATOM	8548	CG	TYR	4280	31.369	-5.268	51.241	1.00	31.38
ATOM	8549	CD1	TYR	4280	32.037	-6.248	51.963	1.00	31.74
ATOM	8550	CE1	TYR	4280	32.751	-5.930	53.116	1.00	33.64

ATOM	8551	CD2	TYR	4280	31.435	-3.952	51.701	1.00	32.92
ATOM	8552	CE2	TYR	4280	32.144	-3.620	52.848	1.00	34.12
ATOM	8553	CZ	TYR	4280	32.803	-4.608	53.555	1.00	34.51
ATOM	8554	OH	TYR	4280	33.525	-4.269	54.686	1.00	34.10
ATOM	8555	C	TYR	4280	28.451	-5.028	51.221	1.00	28.08
ATOM	8556	O	TYR	4280	28.012	-4.006	50.695	1.00	27.49
ATOM	8557	N	SER	4281	28.340	-5.272	52.519	1.00	27.77
ATOM	8558	CA	SER	4281	27.684	-4.326	53.406	1.00	27.31
ATOM	8559	CB	SER	4281	26.175	-4.359	53.156	1.00	27.11
ATOM	8560	OG	SER	4281	25.485	-3.450	53.983	1.00	26.16
ATOM	8561	C	SER	4281	27.976	-4.697	54.851	1.00	27.48
ATOM	8562	O	SER	4281	27.828	-5.856	55.230	1.00	27.58
ATOM	8563	N	ASP	4282	28.404	-3.719	55.649	1.00	28.41
ATOM	8564	CA	ASP	4282	28.701	-3.955	57.067	1.00	28.78
ATOM	8565	CB	ASP	4282	29.438	-2.757	57.676	1.00	29.98
ATOM	8566	CG	ASP	4282	29.908	-3.015	59.085	1.00	31.16
ATOM	8567	OD1	ASP	4282	30.629	-2.158	59.629	1.00	32.30
ATOM	8568	OD2	ASP	4282	29.565	-4.069	59.658	1.00	33.85
ATOM	8569	C	ASP	4282	27.349	-4.172	57.726	1.00	28.36
ATOM	8570	O	ASP	4282	27.072	-5.250	58.235	1.00	28.55
ATOM	8571	N	PRO	4283	26.481	-3.153	57.725	1.00	28.52
ATOM	8572	CD	PRO	4283	26.579	-1.736	57.330	1.00	27.31
ATOM	8573	CA	PRO	4283	25.188	-3.433	58.358	1.00	28.80
ATOM	8574	CB	PRO	4283	24.484	-2.085	58.331	1.00	28.18
ATOM	8575	CG	PRO	4283	25.640	-1.097	58.292	1.00	28.47
ATOM	8576	C	PRO	4283	24.500	-4.449	57.445	1.00	29.41
ATOM	8577	O	PRO	4283	24.733	-4.456	56.228	1.00	28.92
ATOM	8578	N	GLN	4284	23.667	-5.301	58.029	1.00	29.87
ATOM	8579	CA	GLN	4284	22.949	-6.327	57.283	1.00	30.26
ATOM	8580	CB	GLN	4284	21.990	-7.037	58.229	1.00	31.50
ATOM	8581	CG	GLN	4284	21.834	-8.513	57.951	1.00	32.38
ATOM	8582	CD	GLN	4284	23.165	-9.224	57.909	1.00	33.02
ATOM	8583	OE1	GLN	4284	23.909	-9.246	58.895	1.00	33.01
ATOM	8584	NE2	GLN	4284	23.478	-9.811	56.761	1.00	33.12
ATOM	8585	C	GLN	4284	22.182	-5.703	56.109	1.00	30.48
ATOM	8586	O	GLN	4284	21.371	-4.799	56.300	1.00	30.46
ATOM	8587	N	PRO	4285	22.457	-6.162	54.870	1.00	30.32
ATOM	8588	CD	PRO	4285	23.680	-6.866	54.452	1.00	30.16
ATOM	8589	CA	PRO	4285	21.752	-5.605	53.709	1.00	30.02
ATOM	8590	CB	PRO	4285	22.827	-5.622	52.632	1.00	30.18
ATOM	8591	CG	PRO	4285	23.552	-6.893	52.939	1.00	30.10
ATOM	8592	C	PRO	4285	20.522	-6.394	53.289	1.00	30.48
ATOM	8593	O	PRO	4285	20.418	-7.600	53.517	1.00	30.39
ATOM	8594	N	HIS	4286	19.579	-5.700	52.670	1.00	30.89
ATOM	8595	CA	HIS	4286	18.371	-6.334	52.210	1.00	31.17
ATOM	8596	CB	HIS	4286	17.156	-5.569	52.705	1.00	32.91
ATOM	8597	CG	HIS	4286	15.865	-6.195	52.299	1.00	34.87
ATOM	8598	CD2	HIS	4286	15.260	-7.333	52.714	1.00	35.51
ATOM	8599	ND1	HIS	4286	15.093	-5.703	51.268	1.00	36.13
ATOM	8600	CE1	HIS	4286	14.070	-6.516	51.063	1.00	35.97
ATOM	8601	NE2	HIS	4286	14.148	-7.512	51.928	1.00	35.58
ATOM	8602	C	HIS	4286	18.406	-6.344	50.694	1.00	31.58
ATOM	8603	O	HIS	4286	18.322	-5.290	50.063	1.00	31.81
ATOM	8604	N	ILE	4287	18.532	-7.538	50.117	1.00	31.34
ATOM	8605	CA	ILE	4287	18.610	-7.702	48.675	1.00	31.28
ATOM	8606	CB	ILE	4287	19.636	-8.805	48.328	1.00	32.06
ATOM	8607	CG2	ILE	4287	19.668	-9.081	46.816	1.00	31.41
ATOM	8608	CG1	ILE	4287	21.016	-8.370	48.828	1.00	32.58
ATOM	8609	CD1	ILE	4287	22.124	-9.349	48.512	1.00	33.57
ATOM	8610	C	ILE	4287	17.252	-8.015	48.068	1.00	31.79
ATOM	8611	O	ILE	4287	16.385	-8.584	48.727	1.00	31.80
ATOM	8612	N	GLN	4288	17.082	-7.652	46.801	1.00	32.04

ATOM	8613	CA	GLN	4288	15.815	-7.841	46.103	1.00	33.12
ATOM	8614	CB	GLN	4288	14.944	-6.615	46.388	1.00	33.99
ATOM	8615	CG	GLN	4288	13.443	-6.784	46.322	1.00	37.24
ATOM	8616	CD	GLN	4288	12.696	-5.542	46.856	1.00	38.86
ATOM	8617	OE1	GLN	4288	11.470	-5.544	46.982	1.00	39.88
ATOM	8618	NE2	GLN	4288	13.443	-4.484	47.170	1.00	38.58
ATOM	8619	C	GLN	4288	16.103	-7.929	44.607	1.00	33.15
ATOM	8620	O	GLN	4288	16.927	-7.179	44.098	1.00	33.78
ATOM	8621	N	TRP	4289	15.450	-8.852	43.909	1.00	33.18
ATOM	8622	CA	TRP	4289	15.626	-8.978	42.459	1.00	33.22
ATOM	8623	CB	TRP	4289	15.904	-10.424	42.045	1.00	33.61
ATOM	8624	CG	TRP	4289	17.289	-10.884	42.305	1.00	34.06
ATOM	8625	CD2	TRP	4289	18.408	-10.752	41.428	1.00	34.66
ATOM	8626	CE2	TRP	4289	19.520	-11.344	42.076	1.00	34.84
ATOM	8627	CE3	TRP	4289	18.581	-10.190	40.157	1.00	34.70
ATOM	8628	CD1	TRP	4289	17.750	-11.528	43.423	1.00	34.15
ATOM	8629	NE1	TRP	4289	19.088	-11.809	43.291	1.00	34.64
ATOM	8630	CZ2	TRP	4289	20.791	-11.391	41.496	1.00	35.28
ATOM	8631	CZ3	TRP	4289	19.845	-10.237	39.574	1.00	35.73
ATOM	8632	CH2	TRP	4289	20.936	-10.835	40.247	1.00	36.23
ATOM	8633	C	TRP	4289	14.358	-8.500	41.746	1.00	33.64
ATOM	8634	O	TRP	4289	13.250	-8.918	42.077	1.00	32.96
ATOM	8635	N	LEU	4290	14.523	-7.622	40.768	1.00	34.40
ATOM	8636	CA	LEU	4290	13.376	-7.103	40.040	1.00	35.84
ATOM	8637	CB	LEU	4290	13.157	-5.617	40.362	1.00	36.53
ATOM	8638	CG	LEU	4290	13.168	-5.300	41.863	1.00	37.20
ATOM	8639	CD1	LEU	4290	14.603	-5.239	42.327	1.00	36.89
ATOM	8640	CD2	LEU	4290	12.492	-3.973	42.145	1.00	38.20
ATOM	8641	C	LEU	4290	13.523	-7.283	38.539	1.00	36.16
ATOM	8642	O	LEU	4290	14.636	-7.363	38.008	1.00	35.34
ATOM	8643	N	LYS	4291	12.379	-7.376	37.872	1.00	37.15
ATOM	8644	CA	LYS	4291	12.323	-7.514	36.423	1.00	38.48
ATOM	8645	CB	LYS	4291	11.609	-8.817	35.026	1.00	39.76
ATOM	8646	CG	LYS	4291	11.108	-8.901	34.564	1.00	40.60
ATOM	8647	CD	LYS	4291	12.246	-8.830	33.535	1.00	42.97
ATOM	8648	CE	LYS	4291	11.820	-9.328	32.138	1.00	44.27
ATOM	8649	NZ	LYS	4291	10.669	-8.590	31.524	1.00	44.72
ATOM	8650	C	LYS	4291	11.541	-6.306	35.924	1.00	38.86
ATOM	8651	O	LYS	4291	10.430	-6.043	36.390	1.00	37.83
ATOM	8652	N	HIS	4292	12.142	-5.556	35.007	1.00	40.21
ATOM	8653	CA	HIS	4292	11.490	-4.384	34.433	1.00	42.41
ATOM	8654	CB	HIS	4292	12.525	-3.516	33.725	1.00	41.96
ATOM	8655	CG	HIS	4292	13.440	-2.809	34.668	1.00	41.96
ATOM	8656	CD2	HIS	4292	14.624	-3.182	35.207	1.00	42.64
ATOM	8657	ND1	HIS	4292	13.104	-1.617	35.267	1.00	41.77
ATOM	8658	CE1	HIS	4292	14.038	-1.288	36.141	1.00	42.75
ATOM	8659	NE2	HIS	4292	14.971	-2.221	36.126	1.00	42.35
ATOM	8660	C	HIS	4292	10.395	-4.826	33.471	1.00	44.25
ATOM	8661	O	HIS	4292	10.652	-5.556	32.507	1.00	43.41
ATOM	8662	N	ILE	4293	9.180	-4.366	33.761	1.00	47.48
ATOM	8663	CA	ILE	4293	7.979	-4.708	33.009	1.00	51.04
ATOM	8664	CB	ILE	4293	6.918	-5.343	33.965	1.00	51.20
ATOM	8665	CG2	ILE	4293	5.679	-5.771	33.198	1.00	51.79
ATOM	8666	CG1	ILE	4293	7.509	-6.568	34.652	1.00	51.93
ATOM	8667	CD1	ILE	4293	8.030	-7.621	33.680	1.00	52.28
ATOM	8668	C	ILE	4293	7.321	-3.524	32.296	1.00	53.15
ATOM	8669	O	ILE	4293	7.620	-2.354	32.574	1.00	53.09
ATOM	8670	N	GLU	4294	6.416	-3.857	31.376	1.00	55.65
ATOM	8671	CA	GLU	4294	5.657	-2.870	30.618	1.00	58.14
ATOM	8672	CB	GLU	4294	5.801	-3.117	29.112	1.00	57.19
ATOM	8673	C	GLU	4294	4.183	-2.960	31.012	1.00	59.77
ATOM	8674	O	GLU	4294	3.759	-3.897	31.689	1.00	59.44

ATOM	8675	N	VAL	4295	3.413	-1.967	30.593	1.00	62.69
ATOM	8676	CA	VAL	4295	1.981	-1.915	30.868	1.00	65.41
ATOM	8677	CB	VAL	4295	1.700	-1.091	32.152	1.00	65.44
ATOM	8678	CG1	VAL	4295	0.211	-0.817	32.307	1.00	65.73
ATOM	8679	CG2	VAL	4295	2.211	-1.861	33.366	1.00	64.96
ATOM	8680	C	VAL	4295	1.323	-1.287	29.636	1.00	67.29
ATOM	8681	O	VAL	4295	0.118	-1.025	29.611	1.00	67.51
ATOM	8682	N	ASN	4296	2.154	-1.083	28.612	1.00	69.59
ATOM	8683	CA	ASN	4296	1.786	-0.515	27.311	1.00	71.69
ATOM	8684	CB	ASN	4296	1.279	0.925	27.459	1.00	72.56
ATOM	8685	CG	ASN	4296	-0.044	1.004	28.180	1.00	73.76
ATOM	8686	OD1	ASN	4296	-1.025	0.378	27.767	1.00	74.52
ATOM	8687	ND2	ASN	4296	-0.082	1.766	29.273	1.00	74.09
ATOM	8688	C	ASN	4296	3.067	-0.498	26.482	1.00	72.69
ATOM	8689	O	ASN	4296	3.666	-1.540	26.200	1.00	73.05
ATOM	8690	N	GLY	4297	3.467	0.705	26.089	1.00	73.53
ATOM	8691	CA	GLY	4297	4.698	0.898	25.349	1.00	74.28
ATOM	8692	C	GLY	4297	5.497	1.723	26.338	1.00	74.92
ATOM	8693	O	GLY	4297	6.571	2.267	26.039	1.00	74.91
ATOM	8694	N	SER	4298	4.924	1.806	27.540	1.00	74.92
ATOM	8695	CA	SER	4298	5.496	2.548	28.652	1.00	74.63
ATOM	8696	CB	SER	4298	4.408	3.393	29.335	1.00	74.57
ATOM	8697	OG	SER	4298	3.226	2.642	29.564	1.00	75.04
ATOM	8698	C	SER	4298	6.164	1.624	29.667	1.00	74.22
ATOM	8699	O	SER	4298	5.498	0.876	30.388	1.00	73.80
ATOM	8700	N	LYS	4299	7.493	1.676	29.689	1.00	73.81
ATOM	8701	CA	LYS	4299	8.285	0.884	30.611	1.00	73.37
ATOM	8702	CB	LYS	4299	9.704	0.700	30.070	1.00	73.41
ATOM	8703	CG	LYS	4299	9.779	-0.112	28.783	1.00	73.66
ATOM	8704	CD	LYS	4299	11.219	-0.283	28.314	1.00	73.93
ATOM	8705	CE	LYS	4299	11.301	-1.171	27.074	1.00	74.43
ATOM	8706	NZ	LYS	4299	12.705	-1.372	26.596	1.00	74.54
ATOM	8707	C	LYS	4299	8.318	1.655	31.920	1.00	72.94
ATOM	8708	O	LYS	4299	8.678	1.119	32.969	1.00	73.16
ATOM	8709	N	ILE	4300	7.932	2.924	31.841	1.00	72.42
ATOM	8710	CA	ILE	4300	7.893	3.798	33.003	1.00	72.36
ATOM	8711	CB	ILE	4300	8.580	5.153	32.717	1.00	72.06
ATOM	8712	CG2	ILE	4300	8.693	5.967	34.002	1.00	71.81
ATOM	8713	CG1	ILE	4300	9.974	4.920	32.136	1.00	71.69
ATOM	8714	CD1	ILE	4300	10.901	4.157	33.055	1.00	72.04
ATOM	8715	C	ILE	4300	6.434	4.050	33.359	1.00	72.49
ATOM	8716	O	ILE	4300	5.548	3.904	32.517	1.00	72.30
ATOM	8717	N	GLY	4301	6.193	4.424	34.609	1.00	72.80
ATOM	8718	CA	GLY	4301	4.838	4.680	35.057	1.00	73.35
ATOM	8719	C	GLY	4301	4.440	6.147	35.057	1.00	73.57
ATOM	8720	O	GLY	4301	5.252	7.022	34.731	1.00	73.30
ATOM	8721	N	PRO	4302	3.179	6.444	35.426	1.00	73.73
ATOM	8722	CD	PRO	4302	2.148	5.443	35.742	1.00	73.72
ATOM	8723	CA	PRO	4302	2.613	7.801	35.485	1.00	73.40
ATOM	8724	CB	PRO	4302	1.111	7.550	35.656	1.00	73.95
ATOM	8725	CG	PRO	4302	0.918	6.109	35.202	1.00	74.03
ATOM	8726	C	PRO	4302	3.189	8.579	36.659	1.00	72.79
ATOM	8727	O	PRO	4302	2.988	9.791	36.781	1.00	72.49
ATOM	8728	N	ASP	4303	3.901	7.856	37.520	1.00	72.01
ATOM	8729	CA	ASP	4303	4.529	8.429	38.701	1.00	71.14
ATOM	8730	CB	ASP	4303	4.234	7.553	39.925	1.00	71.50
ATOM	8731	CG	ASP	4303	4.633	6.100	39.715	1.00	71.75
ATOM	8732	OD1	ASP	4303	4.619	5.333	40.701	1.00	71.77
ATOM	8733	OD2	ASP	4303	4.957	5.724	38.566	1.00	72.03
ATOM	8734	C	ASP	4303	6.043	8.566	38.510	1.00	70.24
ATOM	8735	O	ASP	4303	6.775	8.824	39.470	1.00	70.13
ATOM	8736	N	ASN	4304	6.501	8.383	37.271	1.00	68.93

ATOM	8737	CA	ASN	4304	7.924	8.503	36.928	1.00	67.67
ATOM	8738	CB	ASN	4304	8.505	9.789	37.552	1.00	67.88
ATOM	8739	CG	ASN	4304	9.905	10.121	37.047	1.00	68.24
ATOM	8740	OD1	ASN	4304	10.157	10.142	35.835	1.00	67.71
ATOM	8741	ND2	ASN	4304	10.820	10.403	37.979	1.00	67.87
ATOM	8742	C	ASN	4304	8.744	7.277	37.351	1.00	66.27
ATOM	8743	O	ASN	4304	9.934	7.177	37.044	1.00	66.12
ATOM	8744	N	LEU	4305	8.106	6.352	38.059	1.00	64.57
ATOM	8745	CA	LEU	4305	8.776	5.131	38.490	1.00	62.93
ATOM	8746	CB	LEU	4305	8.261	4.681	39.858	1.00	62.73
ATOM	8747	CG	LEU	4305	8.769	5.458	41.074	1.00	62.83
ATOM	8748	CD1	LEU	4305	10.289	5.484	41.045	1.00	62.06
ATOM	8749	CD2	LEU	4305	8.215	6.870	41.071	1.00	63.05
ATOM	8750	C	LEU	4305	8.517	4.039	37.456	1.00	61.84
ATOM	8751	O	LEU	4305	7.414	3.932	36.921	1.00	62.08
ATOM	8752	N	PRO	4306	9.536	3.216	37.156	1.00	60.36
ATOM	8753	CD	PRO	4306	10.923	3.306	37.648	1.00	59.81
ATOM	8754	CA	PRO	4306	9.395	2.134	36.176	1.00	59.10
ATOM	8755	CB	PRO	4306	10.842	1.805	35.832	1.00	59.65
ATOM	8756	CG	PRO	4306	11.530	2.007	37.153	1.00	59.97
ATOM	8757	C	PRO	4306	8.637	0.916	36.712	1.00	57.89
ATOM	8758	O	PRO	4306	8.847	0.499	37.854	1.00	57.26
ATOM	8759	N	TYR	4307	7.757	0.354	35.884	1.00	56.52
ATOM	8760	CA	TYR	4307	6.986	-0.825	36.278	1.00	55.10
ATOM	8761	CB	TYR	4307	6.002	-1.248	35.175	1.00	57.23
ATOM	8762	CG	TYR	4307	4.952	-0.221	34.785	1.00	59.34
ATOM	8763	CD1	TYR	4307	4.897	0.282	33.483	1.00	60.44
ATOM	8764	CE1	TYR	4307	3.918	1.210	33.099	1.00	61.23
ATOM	8765	CD2	TYR	4307	3.998	0.230	35.704	1.00	60.43
ATOM	8766	CE2	TYR	4307	3.009	1.160	35.328	1.00	61.18
ATOM	8767	CZ	TYR	4307	2.978	1.641	34.023	1.00	61.53
ATOM	8768	OH	TYR	4307	2.005	2.536	33.630	1.00	61.91
ATOM	8769	C	TYR	4307	7.962	-1.974	36.521	1.00	52.82
ATOM	8770	O	TYR	4307	8.680	-2.386	35.608	1.00	52.65
ATOM	8771	N	VAL	4308	7.995	-2.479	37.750	1.00	49.77
ATOM	8772	CA	VAL	4308	8.880	-3.588	38.087	1.00	47.58
ATOM	8773	CB	VAL	4308	10.029	-3.149	39.033	1.00	47.43
ATOM	8774	CG1	VAL	4308	10.777	-1.965	38.421	1.00	47.27
ATOM	8775	CG2	VAL	4308	9.481	-2.806	40.406	1.00	46.48
ATOM	8776	C	VAL	4308	8.112	-4.723	38.747	1.00	46.29
ATOM	8777	O	VAL	4308	7.031	-4.525	39.294	1.00	45.80
ATOM	8778	N	GLN	4309	8.686	-5.916	38.691	1.00	45.31
ATOM	8779	CA	GLN	4309	8.067	-7.097	39.275	1.00	44.32
ATOM	8780	CB	GLN	4309	7.771	-8.107	38.162	1.00	46.24
ATOM	8781	CG	GLN	4309	6.638	-9.078	38.430	1.00	48.39
ATOM	8782	CD	GLN	4309	6.503	-10.115	37.316	1.00	50.04
ATOM	8783	OE1	GLN	4309	6.523	-9.784	36.121	1.00	50.71
ATOM	8784	NE2	GLN	4309	6.360	-11.375	37.704	1.00	51.01
ATOM	8785	C	GLN	4309	9.074	-7.688	40.252	1.00	42.69
ATOM	8786	O	GLN	4309	10.197	-8.016	39.856	1.00	42.33
ATOM	8787	N	ILE	4310	8.685	-7.804	41.520	1.00	40.82
ATOM	8788	CA	ILE	4310	9.562	-8.375	42.540	1.00	39.61
ATOM	8789	CB	ILE	4310	8.969	-8.252	43.951	1.00	39.85
ATOM	8790	CG2	ILE	4310	10.037	-8.605	44.971	1.00	39.56
ATOM	8791	CG1	ILE	4310	8.390	-6.853	44.184	1.00	40.14
ATOM	8792	CD1	ILE	4310	9.402	-5.748	44.175	1.00	40.54
ATOM	8793	C	ILE	4310	9.672	-9.868	42.262	1.00	39.37
ATOM	8794	O	ILE	4310	8.682	-10.591	42.365	1.00	39.52
ATOM	8795	N	LEU	4311	10.866	-10.341	41.935	1.00	38.63
ATOM	8796	CA	LEU	4311	11.041	-11.749	41.636	1.00	37.84
ATOM	8797	CB	LEU	4311	11.949	-11.904	40.413	1.00	37.65
ATOM	8798	CG	LEU	4311	11.451	-11.245	39.122	1.00	36.92

ATOM	8799	CD1	LEU	4311	12.538	-11.305	38.072	1.00	37.35
ATOM	8800	CD2	LEU	4311	10.200	-11.937	38.630	1.00	36.20
ATOM	8801	C	LEU	4311	11.606	-12.537	42.808	1.00	38.39
ATOM	8802	O	LEU	4311	11.436	-13.755	42.877	1.00	38.84
ATOM	8803	N	LYS	4312	12.269	-11.849	43.731	1.00	38.08
ATOM	8804	CA	LYS	4312	12.863	-12.521	44.878	1.00	37.58
ATOM	8805	CB	LYS	4312	14.131	-13.231	44.420	1.00	37.66
ATOM	8806	CG	LYS	4312	14.555	-14.437	45.236	1.00	37.49
ATOM	8807	CD	LYS	4312	15.793	-15.026	44.581	1.00	37.45
ATOM	8808	CE	LYS	4312	16.243	-16.316	45.226	1.00	37.77
ATOM	8809	NZ	LYS	4312	17.437	-16.854	44.516	1.00	36.80
ATOM	8810	C	LYS	4312	13.184	-11.472	45.939	1.00	37.79
ATOM	8811	O	LYS	4312	13.767	-10.427	45.639	1.00	38.24
ATOM	8812	N	THR	4313	12.797	-11.746	47.176	1.00	37.73
ATOM	8813	CA	THR	4313	13.040	-10.807	48.265	1.00	38.02
ATOM	8814	CB	THR	4313	11.747	-10.058	48.619	1.00	38.54
ATOM	8815	OG1	THR	4313	11.394	-9.211	47.518	1.00	40.90
ATOM	8816	CG2	THR	4313	11.923	-9.205	49.865	1.00	38.44
ATOM	8817	C	THR	4313	13.601	-11.481	49.513	1.00	37.68
ATOM	8818	O	THR	4313	13.035	-12.451	50.021	1.00	38.33
ATOM	8819	N	ALA	4314	14.718	-10.960	50.006	1.00	36.78
ATOM	8820	CA	ALA	4314	15.343	-11.519	51.194	1.00	35.56
ATOM	8821	CB	ALA	4314	16.682	-10.847	51.457	1.00	35.27
ATOM	8822	C	ALA	4314	14.431	-11.355	52.397	1.00	34.96
ATOM	8823	O	ALA	4314	13.648	-10.410	52.481	1.00	33.96
ATOM	8824	N	GLY	4315	14.545	-12.297	53.322	1.00	34.82
ATOM	8825	CA	GLY	4315	13.743	-12.276	54.527	1.00	35.43
ATOM	8826	C	GLY	4315	13.925	-13.612	55.208	1.00	36.19
ATOM	8827	O	GLY	4315	14.767	-14.417	54.797	1.00	36.27
ATOM	8828	N	VAL	4316	13.136	-13.863	56.238	1.00	36.45
ATOM	8829	CA	VAL	4316	13.234	-15.116	56.960	1.00	37.25
ATOM	8830	CB	VAL	4316	12.273	-15.115	58.134	1.00	37.67
ATOM	8831	CG1	VAL	4316	12.510	-16.346	58.997	1.00	39.80
ATOM	8832	CG2	VAL	4316	12.466	-13.856	58.940	1.00	37.70
ATOM	8833	C	VAL	4316	12.935	-16.339	56.094	1.00	37.44
ATOM	8834	O	VAL	4316	13.459	-17.427	56.352	1.00	37.16
ATOM	8835	N	ASN	4317	12.100	-16.162	55.066	1.00	38.11
ATOM	8836	CA	ASN	4317	11.725	-17.274	54.184	1.00	38.14
ATOM	8837	CB	ASN	4317	10.293	-17.101	53.697	1.00	37.64
ATOM	8838	CG	ASN	4317	9.281	-17.268	54.817	1.00	38.22
ATOM	8839	OD1	ASN	4317	8.152	-16.788	54.725	1.00	37.85
ATOM	8840	ND2	ASN	4317	9.683	-17.960	55.883	1.00	38.04
ATOM	8841	C	ASN	4317	12.653	-17.455	53.003	1.00	38.48
ATOM	8842	O	ASN	4317	12.670	-18.508	52.372	1.00	39.03
ATOM	8843	N	THR	4318	13.431	-16.426	52.708	1.00	39.26
ATOM	8844	CA	THR	4318	14.383	-16.477	51.604	1.00	39.67
ATOM	8845	CB	THR	4318	13.895	-15.628	50.395	1.00	39.59
ATOM	8846	OG1	THR	4318	12.480	-15.411	50.485	1.00	38.61
ATOM	8847	CG2	THR	4318	14.185	-16.352	49.100	1.00	39.85
ATOM	8848	C	THR	4318	15.693	-15.901	52.144	1.00	39.64
ATOM	8849	O	THR	4318	15.984	-14.719	51.981	1.00	39.63
ATOM	8850	N	THR	4319	16.457	-16.752	52.810	1.00	39.48
ATOM	8851	CA	THR	4319	17.725	-16.396	53.412	1.00	39.02
ATOM	8852	CB	THR	4319	18.269	-17.637	54.113	1.00	38.51
ATOM	8853	OG1	THR	4319	17.585	-17.777	55.358	1.00	37.16
ATOM	8854	CG2	THR	4319	19.763	-17.558	54.333	1.00	38.85
ATOM	8855	C	THR	4319	18.761	-15.858	52.440	1.00	39.30
ATOM	8856	O	THR	4319	18.664	-16.076	51.240	1.00	38.65
ATOM	8857	N	ASP	4320	19.760	-15.162	52.977	1.00	40.12
ATOM	8858	CA	ASP	4320	20.831	-14.607	52.165	1.00	41.46
ATOM	8859	CB	ASP	4320	21.782	-13.801	53.035	1.00	42.49
ATOM	8860	CG	ASP	4320	21.142	-12.570	53.609	1.00	43.67

ATOM	8861	OD1	ASP	4320	20.476	-11.828	52.855	1.00	43.47
ATOM	8862	OD2	ASP	4320	21.322	-12.337	54.822	1.00	46.01
ATOM	8863	C	ASP	4320	21.631	-15.680	51.431	1.00	41.87
ATOM	8864	O	ASP	4320	22.231	-15.418	50.395	1.00	41.52
ATOM	8865	N	LYS	4321	21.649	-16.888	51.977	1.00	42.88
ATOM	8866	CA	LYS	4321	22.383	-17.989	51.363	1.00	43.85
ATOM	8867	CB	LYS	4321	21.990	-19.316	52.020	1.00	44.70
ATOM	8868	CG	LYS	4321	22.217	-19.370	53.524	1.00	47.07
ATOM	8869	CD	LYS	4321	21.400	-20.502	54.162	1.00	48.07
ATOM	8870	CE	LYS	4321	21.161	-20.260	55.666	1.00	48.55
ATOM	8871	NZ	LYS	4321	22.415	-20.272	56.470	1.00	48.32
ATOM	8872	C	LYS	4321	22.076	-18.084	49.872	1.00	44.10
ATOM	8873	O	LYS	4321	22.927	-18.481	49.071	1.00	43.23
ATOM	8874	N	GLU	4322	20.860	-17.696	49.506	1.00	44.43
ATOM	8875	CA	GLU	4322	20.416	-17.803	48.129	1.00	45.34
ATOM	8876	CB	GLU	4322	19.222	-18.753	48.091	1.00	47.85
ATOM	8877	CG	GLU	4322	18.105	-18.327	49.032	1.00	50.35
ATOM	8878	CD	GLU	4322	16.987	-19.348	49.128	1.00	52.52
ATOM	8879	OE1	GLU	4322	16.206	-19.502	48.154	1.00	53.64
ATOM	8880	OE2	GLU	4322	16.894	-20.005	50.188	1.00	54.36
ATOM	8881	C	GLU	4322	20.028	-16.516	47.418	1.00	44.68
ATOM	8882	O	GLU	4322	19.521	-16.567	46.298	1.00	45.07
ATOM	8883	N	MSE	4323	20.254	-15.365	48.035	1.00	43.72
ATOM	8884	CA	MSE	4323	19.860	-14.118	47.384	1.00	42.91
ATOM	8885	CB	MSE	4323	19.547	-13.033	48.424	1.00	43.05
ATOM	8886	CG	MSE	4323	18.302	-13.284	49.257	1.00	42.47
ATOM	8887	SE	MSE	4323	16.792	-13.495	48.297	1.00	42.50
ATOM	8888	CE	MSE	4323	16.851	-12.033	47.279	1.00	43.13
ATOM	8889	C	MSE	4323	20.858	-13.565	46.378	1.00	42.72
ATOM	8890	O	MSE	4323	20.529	-12.654	45.624	1.00	42.58
ATOM	8891	N	GLU	4324	22.075	-14.097	46.354	1.00	42.91
ATOM	8892	CA	GLU	4324	23.067	-13.600	45.405	1.00	42.92
ATOM	8893	CB	GLU	4324	24.488	-13.805	45.946	1.00	43.70
ATOM	8894	CG	GLU	4324	24.843	-12.877	47.111	1.00	45.11
ATOM	8895	CD	GLU	4324	26.347	-12.753	47.355	1.00	45.88
ATOM	8896	OE1	GLU	4324	26.983	-13.749	47.782	1.00	45.81
ATOM	8897	OE2	GLU	4324	26.888	-11.647	47.116	1.00	46.44
ATOM	8898	C	GLU	4324	22.941	-14.225	44.010	1.00	42.89
ATOM	8899	O	GLU	4324	23.787	-14.001	43.145	1.00	43.47
ATOM	8900	N	VAL	4325	21.884	-14.995	43.778	1.00	42.26
ATOM	8901	CA	VAL	4325	21.702	-15.599	42.471	1.00	42.10
ATOM	8902	CB	VAL	4325	22.334	-17.013	42.415	1.00	42.51
ATOM	8903	CG1	VAL	4325	21.380	-18.039	42.994	1.00	42.17
ATOM	8904	CG2	VAL	4325	22.703	-17.364	40.981	1.00	43.51
ATOM	8905	C	VAL	4325	20.222	-15.678	42.112	1.00	42.11
ATOM	8906	O	VAL	4325	19.374	-15.940	42.967	1.00	42.16
ATOM	8907	N	LEU	4326	19.913	-15.428	40.846	1.00	42.18
ATOM	8908	CA	LEU	4326	18.539	-15.486	40.374	1.00	42.61
ATOM	8909	CB	LEU	4326	18.111	-14.138	39.817	1.00	43.09
ATOM	8910	CG	LEU	4326	16.718	-14.170	39.196	1.00	43.19
ATOM	8911	CD1	LEU	4326	15.708	-14.549	40.267	1.00	43.61
ATOM	8912	CD2	LEU	4326	16.389	-12.813	38.596	1.00	43.18
ATOM	8913	C	LEU	4326	18.474	-16.531	39.271	1.00	43.23
ATOM	8914	O	LEU	4326	19.187	-16.424	38.267	1.00	42.91
ATOM	8915	N	HIS	4327	17.627	-17.539	39.465	1.00	43.90
ATOM	8916	CA	HIS	4327	17.481	-18.617	38.494	1.00	44.62
ATOM	8917	CB	HIS	4327	17.483	-19.980	39.203	1.00	45.27
ATOM	8918	CG	HIS	4327	18.802	-20.342	39.810	1.00	45.50
ATOM	8919	CD2	HIS	4327	19.165	-20.553	41.098	1.00	45.92
ATOM	8920	ND1	HIS	4327	19.946	-20.507	39.057	1.00	46.35
ATOM	8921	CE1	HIS	4327	20.958	-20.803	39.855	1.00	46.62
ATOM	8922	NE2	HIS	4327	20.511	-20.837	41.099	1.00	46.72

ATOM	8923	C	HIS	4327	16.217	-18.477	37.657	1.00	44.86
ATOM	8924	O	HIS	4327	15.119	-18.250	38.181	1.00	44.01
ATOM	8925	N	LEU	4328	16.398	-18.607	36.348	1.00	45.17
ATOM	8926	CA	LEU	4328	15.309	-18.519	35.390	1.00	46.29
ATOM	8927	CB	LEU	4328	15.544	-17.309	34.489	1.00	45.48
ATOM	8928	CG	LEU	4328	15.613	-16.025	35.319	1.00	45.17
ATOM	8929	CD1	LEU	4328	16.213	-14.884	34.515	1.00	44.75
ATOM	8930	CD2	LEU	4328	14.212	-15.688	35.802	1.00	44.47
ATOM	8931	C	LEU	4328	15.337	-19.825	34.589	1.00	47.49
ATOM	8932	O	LEU	4328	16.347	-20.153	33.953	1.00	47.87
ATOM	8933	N	ARG	4329	14.240	-20.573	34.631	1.00	48.35
ATOM	8934	CA	ARG	4329	14.169	-21.853	33.931	1.00	49.34
ATOM	8935	CB	ARG	4329	13.604	-22.922	34.872	1.00	50.71
ATOM	8936	CG	ARG	4329	14.480	-23.214	36.089	1.00	52.02
ATOM	8937	CD	ARG	4329	15.465	-24.314	35.793	1.00	53.40
ATOM	8938	NE	ARG	4329	16.636	-24.258	36.658	1.00	54.67
ATOM	8939	CZ	ARG	4329	17.687	-25.061	36.538	1.00	55.58
ATOM	8940	NH1	ARG	4329	17.710	-25.986	35.590	1.00	55.08
ATOM	8941	NH2	ARG	4329	18.725	-24.922	37.357	1.00	56.68
ATOM	8942	C	ARG	4329	13.315	-21.801	32.671	1.00	49.42
ATOM	8943	O	ARG	4329	12.274	-21.132	32.635	1.00	49.05
ATOM	8944	N	ASN	4330	13.757	-22.525	31.645	1.00	49.74
ATOM	8945	CA	ASN	4330	13.032	-22.601	30.380	1.00	50.30
ATOM	8946	CB	ASN	4330	11.863	-23.578	30.531	1.00	51.03
ATOM	8947	CG	ASN	4330	11.138	-23.831	29.225	1.00	52.31
ATOM	8948	OD1	ASN	4330	9.960	-24.208	29.219	1.00	52.11
ATOM	8949	ND2	ASN	4330	11.841	-23.642	28.109	1.00	52.27
ATOM	8950	C	ASN	4330	12.507	-21.212	30.019	1.00	50.34
ATOM	8951	O	ASN	4330	11.292	-20.966	30.034	1.00	50.09
ATOM	8952	N	VAL	4331	13.424	-20.308	29.690	1.00	50.07
ATOM	8953	CA	VAL	4331	13.050	-18.935	29.374	1.00	50.37
ATOM	8954	CB	VAL	4331	14.308	-18.005	29.319	1.00	50.24
ATOM	8955	CG1	VAL	4331	15.063	-18.067	30.636	1.00	49.25
ATOM	8956	CG2	VAL	4331	15.221	-18.407	28.168	1.00	50.36
ATOM	8957	C	VAL	4331	12.247	-18.772	28.086	1.00	50.54
ATOM	8958	O	VAL	4331	12.499	-19.439	27.084	1.00	50.27
ATOM	8959	N	SER	4332	11.264	-17.883	28.133	1.00	50.89
ATOM	8960	CA	SER	4332	10.429	-17.598	26.978	1.00	51.82
ATOM	8961	CB	SER	4332	8.953	-17.595	27.387	1.00	52.23
ATOM	8962	OG	SER	4332	8.708	-16.679	28.443	1.00	52.23
ATOM	8963	C	SER	4332	10.847	-16.226	26.460	1.00	52.24
ATOM	8964	O	SER	4332	11.789	-15.632	26.979	1.00	52.58
ATOM	8965	N	PHE	4333	10.167	-15.722	25.435	1.00	52.88
ATOM	8966	CA	PHE	4333	10.515	-14.410	24.903	1.00	53.24
ATOM	8967	CB	PHE	4333	9.925	-14.225	23.499	1.00	53.47
ATOM	8968	CG	PHE	4333	10.707	-14.938	22.430	1.00	54.45
ATOM	8969	CD1	PHE	4333	10.066	-15.723	21.478	1.00	54.97
ATOM	8970	CD2	PHE	4333	12.103	-14.839	22.390	1.00	54.87
ATOM	8971	CE1	PHE	4333	10.799	-16.401	20.501	1.00	55.17
ATOM	8972	CE2	PHE	4333	12.851	-15.513	21.417	1.00	54.84
ATOM	8973	CZ	PHE	4333	12.199	-16.295	20.470	1.00	55.41
ATOM	8974	C	PHE	4333	10.023	-13.345	25.864	1.00	53.23
ATOM	8975	O	PHE	4333	10.498	-12.208	25.854	1.00	53.76
ATOM	8976	N	GLU	4334	9.082	-13.741	26.714	1.00	53.25
ATOM	8977	CA	GLU	4334	8.505	-12.858	27.718	1.00	53.69
ATOM	8978	CB	GLU	4334	7.313	-13.547	28.405	1.00	55.25
ATOM	8979	CG	GLU	4334	6.222	-14.105	27.473	1.00	58.21
ATOM	8980	CD	GLU	4334	6.632	-15.385	26.728	1.00	59.31
ATOM	8981	OE1	GLU	4334	7.535	-15.324	25.865	1.00	59.75
ATOM	8982	OE2	GLU	4334	6.041	-16.457	27.003	1.00	59.89
ATOM	8983	C	GLU	4334	9.569	-12.549	28.774	1.00	52.54
ATOM	8984	O	GLU	4334	9.624	-11.447	29.326	1.00	52.53

ATOM	8985	N	ASP	4335	10.410	-13.541	29.047	1.00	50.75
ATOM	8986	CA	ASP	4335	11.458	-13.408	30.046	1.00	49.35
ATOM	8987	CB	ASP	4335	12.096	-14.774	30.333	1.00	50.63
ATOM	8988	CG	ASP	4335	11.170	-15.703	31.105	1.00	51.28
ATOM	8989	OD1	ASP	4335	10.589	-15.240	32.115	1.00	50.92
ATOM	8990	OD2	ASP	4335	11.035	-16.887	30.706	1.00	51.26
ATOM	8991	C	ASP	4335	12.554	-12.419	29.671	1.00	47.79
ATOM	8992	O	ASP	4335	13.271	-11.923	30.543	1.00	46.93
ATOM	8993	N	ALA	4336	12.703	-12.142	28.380	1.00	45.80
ATOM	8994	CA	ALA	4336	13.735	-11.203	27.955	1.00	43.59
ATOM	8995	CB	ALA	4336	13.773	-11.101	26.434	1.00	43.74
ATOM	8996	C	ALA	4336	13.447	-9.838	28.581	1.00	42.27
ATOM	8997	O	ALA	4336	12.295	-9.518	28.912	1.00	41.75
ATOM	8998	N	GLY	4337	14.494	-9.042	28.760	1.00	40.54
ATOM	8999	CA	GLY	4337	14.312	-7.729	29.353	1.00	39.10
ATOM	9000	C	GLY	4337	15.382	-7.351	30.358	1.00	38.15
ATOM	9001	O	GLY	4337	16.441	-7.979	30.433	1.00	37.94
ATOM	9002	N	GLU	4338	15.096	-6.324	31.148	1.00	37.17
ATOM	9003	CA	GLU	4338	16.052	-5.851	32.137	1.00	36.63
ATOM	9004	CB	GLU	4338	16.082	-4.320	32.139	1.00	37.34
ATOM	9005	CG	GLU	4338	17.145	-3.728	33.041	1.00	38.63
ATOM	9006	CD	GLU	4338	17.414	-2.257	32.751	1.00	38.86
ATOM	9007	OE1	GLU	4338	16.449	-1.456	32.748	1.00	38.07
ATOM	9008	OE2	GLU	4338	18.597	-1.909	32.537	1.00	37.89
ATOM	9009	C	GLU	4338	15.790	-6.367	33.543	1.00	35.90
ATOM	9010	O	GLU	4338	14.671	-6.283	34.060	1.00	35.69
ATOM	9011	N	TYR	4339	16.837	-6.917	34.149	1.00	34.68
ATOM	9012	CA	TYR	4339	16.759	-7.445	35.504	1.00	34.15
ATOM	9013	CB	TYR	4339	17.209	-8.912	35.552	1.00	34.74
ATOM	9014	CG	TYR	4339	16.268	-9.869	34.860	1.00	36.20
ATOM	9015	CD1	TYR	4339	16.379	-10.119	33.488	1.00	36.21
ATOM	9016	CE1	TYR	4339	15.480	-10.950	32.831	1.00	36.19
ATOM	9017	CD2	TYR	4339	15.228	-10.486	35.563	1.00	36.48
ATOM	9018	CE2	TYR	4339	14.317	-11.320	34.913	1.00	37.17
ATOM	9019	CZ	TYR	4339	14.452	-11.544	33.544	1.00	37.10
ATOM	9020	OH	TYR	4339	13.548	-12.347	32.889	1.00	37.74
ATOM	9021	C	TYR	4339	17.648	-6.607	36.418	1.00	33.66
ATOM	9022	O	TYR	4339	18.766	-6.230	36.051	1.00	33.45
ATOM	9023	N	THR	4340	17.147	-6.322	37.616	1.00	32.86
ATOM	9024	CA	THR	4340	17.889	-5.513	38.573	1.00	31.96
ATOM	9025	CB	THR	4340	17.167	-4.165	38.864	1.00	31.39
ATOM	9026	OG1	THR	4340	17.178	-3.348	37.696	1.00	31.59
ATOM	9027	CG2	THR	4340	17.854	-3.414	39.992	1.00	30.92
ATOM	9028	C	THR	4340	18.105	-6.176	39.924	1.00	31.77
ATOM	9029	O	THR	4340	17.217	-6.822	40.469	1.00	29.88
ATOM	9030	N	CYS	4341	19.306	-5.986	40.456	1.00	32.88
ATOM	9031	CA	CYS	4341	19.654	-6.479	41.771	1.00	33.28
ATOM	9032	CB	CYS	4341	21.020	-7.142	41.763	1.00	34.10
ATOM	9033	SG	CYS	4341	21.407	-7.752	43.407	1.00	39.81
ATOM	9034	C	CYS	4341	19.702	-5.233	42.657	1.00	33.07
ATOM	9035	O	CYS	4341	20.601	-4.391	42.522	1.00	33.07
ATOM	9036	N	LEU	4342	18.726	-5.108	43.545	1.00	32.27
ATOM	9037	CA	LEU	4342	18.651	-3.966	44.438	1.00	31.87
ATOM	9038	CB	LEU	4342	17.221	-3.435	44.475	1.00	32.99
ATOM	9039	CG	LEU	4342	17.035	-2.098	45.196	1.00	33.58
ATOM	9040	CD1	LEU	4342	17.196	-0.963	44.204	1.00	33.18
ATOM	9041	CD2	LEU	4342	15.662	-2.041	45.814	1.00	33.96
ATOM	9042	C	LEU	4342	19.097	-4.342	45.855	1.00	31.36
ATOM	9043	O	LEU	4342	18.636	-5.322	46.423	1.00	31.33
ATOM	9044	N	ALA	4343	19.991	-3.548	46.428	1.00	30.62
ATOM	9045	CA	ALA	4343	20.498	-3.811	47.770	1.00	29.61
ATOM	9046	CB	ALA	4343	21.915	-4.361	47.682	1.00	29.93

ATOM	9047	C	ALA	4343	20.510	-2.551	48.607	1.00	28.83
ATOM	9048	O	ALA	4343	21.034	-1.531	48.181	1.00	29.09
ATOM	9049	N	GLY	4344	19.954	-2.612	49.805	1.00	28.42
ATOM	9050	CA	GLY	4344	19.969	-1.427	50.636	1.00	28.20
ATOM	9051	C	GLY	4344	20.132	-1.701	52.115	1.00	27.80
ATOM	9052	O	GLY	4344	19.922	-2.820	52.573	1.00	27.63
ATOM	9053	N	ASN	4345	20.545	-0.676	52.853	1.00	27.69
ATOM	9054	CA	ASN	4345	20.689	-0.759	54.301	1.00	27.76
ATOM	9055	CB	ASN	4345	22.131	-1.098	54.733	1.00	26.42
ATOM	9056	CG	ASN	4345	23.167	-0.101	54.231	1.00	26.03
ATOM	9057	OD1	ASN	4345	22.911	1.105	54.169	1.00	26.17
ATOM	9058	ND2	ASN	4345	24.358	-0.600	53.898	1.00	23.59
ATOM	9059	C	ASN	4345	20.253	0.602	54.816	1.00	28.42
ATOM	9060	O	ASN	4345	19.896	1.467	54.032	1.00	29.18
ATOM	9061	N	SER	4346	20.269	0.803	56.121	1.00	29.94
ATOM	9062	CA	SER	4346	19.820	2.075	56.676	1.00	30.91
ATOM	9063	CB	SER	4346	20.074	2.091	58.178	1.00	31.28
ATOM	9064	OG	SER	4346	21.283	1.408	58.486	1.00	34.27
ATOM	9065	C	SER	4346	20.461	3.287	56.010	1.00	31.02
ATOM	9066	O	SER	4346	19.808	4.312	55.807	1.00	30.63
ATOM	9067	N	ILE	4347	21.726	3.142	55.633	1.00	31.12
ATOM	9068	CA	ILE	4347	22.491	4.218	55.009	1.00	31.11
ATOM	9069	CB	ILE	4347	23.995	3.876	55.068	1.00	31.32
ATOM	9070	CG2	ILE	4347	24.815	5.044	54.556	1.00	30.06
ATOM	9071	CG1	ILE	4347	24.375	3.498	56.502	1.00	29.98
ATOM	9072	CD1	ILE	4347	25.748	2.862	56.626	1.00	30.91
ATOM	9073	C	ILE	4347	22.136	4.583	53.563	1.00	30.91
ATOM	9074	O	ILE	4347	22.216	5.752	53.194	1.00	31.96
ATOM	9075	N	GLY	4348	21.763	3.596	52.746	1.00	30.75
ATOM	9076	CA	GLY	4348	21.434	3.884	51.357	1.00	29.90
ATOM	9077	C	GLY	4348	21.122	2.691	50.467	1.00	30.05
ATOM	9078	O	GLY	4348	21.173	1.546	50.905	1.00	30.56
ATOM	9079	N	LEU	4349	20.803	2.982	49.206	1.00	29.94
ATOM	9080	CA	LEU	4349	20.447	1.979	48.204	1.00	30.28
ATOM	9081	CB	LEU	4349	19.079	2.316	47.599	1.00	30.79
ATOM	9082	CG	LEU	4349	17.813	1.980	48.404	1.00	33.29
ATOM	9083	CD1	LEU	4349	17.773	0.465	48.616	1.00	33.89
ATOM	9084	CD2	LEU	4349	17.775	2.703	49.746	1.00	32.39
ATOM	9085	C	LEU	4349	21.458	1.865	47.065	1.00	30.14
ATOM	9086	O	LEU	4349	22.099	2.842	46.690	1.00	29.38
ATOM	9087	N	SER	4350	21.580	0.667	46.505	1.00	29.74
ATOM	9088	CA	SER	4350	22.493	0.432	45.395	1.00	29.96
ATOM	9089	CB	SER	4350	23.829	-0.135	45.893	1.00	29.96
ATOM	9090	OG	SER	4350	24.543	0.797	46.683	1.00	30.04
ATOM	9091	C	SER	4350	21.846	-0.573	44.468	1.00	30.13
ATOM	9092	O	SER	4350	21.034	-1.388	44.907	1.00	30.49
ATOM	9093	N	HIS	4351	22.188	-0.520	43.186	1.00	29.92
ATOM	9094	CA	HIS	4351	21.628	-1.476	42.252	1.00	29.93
ATOM	9095	CB	HIS	4351	20.200	-1.114	41.905	1.00	29.39
ATOM	9096	CG	HIS	4351	20.065	0.208	41.230	1.00	30.24
ATOM	9097	CD2	HIS	4351	19.885	0.527	39.927	1.00	30.19
ATOM	9098	ND1	HIS	4351	20.082	1.401	41.921	1.00	30.70
ATOM	9099	CE1	HIS	4351	19.912	2.399	41.072	1.00	29.67
ATOM	9100	NE2	HIS	4351	19.790	1.895	39.857	1.00	29.36
ATOM	9101	C	HIS	4351	22.429	-1.594	40.980	1.00	30.48
ATOM	9102	O	HIS	4351	23.105	-0.653	40.564	1.00	31.12
ATOM	9103	N	HIS	4352	22.362	-2.781	40.384	1.00	30.52
ATOM	9104	CA	HIS	4352	23.039	-3.092	39.129	1.00	30.07
ATOM	9105	CB	HIS	4352	24.148	-4.112	39.339	1.00	29.99
ATOM	9106	CG	HIS	4352	25.465	-3.508	39.685	1.00	31.26
ATOM	9107	CD2	HIS	4352	25.881	-2.218	39.684	1.00	31.91
ATOM	9108	ND1	HIS	4352	26.539	-4.260	40.108	1.00	31.32

ATOM	9109	CE1	HIS	4352	27.561	-3.460	40.360	1.00	32.79
ATOM	9110	NE2	HIS	4352	27.187	-2.215	40.110	1.00	33.25
ATOM	9111	C	HIS	4352	21.973	-3.721	38.253	1.00	30.31
ATOM	9112	O	HIS	4352	21.079	-4.407	38.755	1.00	30.36
ATOM	9113	N	SER	4353	22.062	-3.494	36.950	1.00	29.99
ATOM	9114	CA	SER	4353	21.090	-4.049	36.022	1.00	29.61
ATOM	9115	CB	SER	4353	20.229	-2.942	35.402	1.00	29.98
ATOM	9116	OG	SER	4353	19.357	-2.357	36.355	1.00	30.66
ATOM	9117	C	SER	4353	21.794	-4.785	34.912	1.00	29.84
ATOM	9118	O	SER	4353	22.948	-4.517	34.601	1.00	29.86
ATOM	9119	N	ALA	4354	21.089	-5.728	34.315	1.00	30.68
ATOM	9120	CA	ALA	4354	21.642	-6.482	33.213	1.00	32.16
ATOM	9121	CB	ALA	4354	22.259	-7.785	33.704	1.00	32.55
ATOM	9122	C	ALA	4354	20.494	-6.765	32.270	1.00	33.31
ATOM	9123	O	ALA	4354	19.324	-6.759	32.669	1.00	32.63
ATOM	9124	N	TRP	4355	20.829	-6.995	31.010	1.00	34.78
ATOM	9125	CA	TRP	4355	19.812	-7.291	30.021	1.00	36.62
ATOM	9126	CB	TRP	4355	20.001	-6.417	28.779	1.00	39.13
ATOM	9127	CG	TRP	4355	18.771	-5.629	28.485	1.00	42.31
ATOM	9128	CD2	TRP	4355	18.533	-4.272	28.852	1.00	43.06
ATOM	9129	CE2	TRP	4355	17.193	-3.968	28.493	1.00	43.78
ATOM	9130	CE3	TRP	4355	19.317	-3.279	29.455	1.00	42.62
ATOM	9131	CD1	TRP	4355	17.604	-6.088	27.923	1.00	43.18
ATOM	9132	NE1	TRP	4355	16.652	-5.095	27.929	1.00	43.64
ATOM	9133	CZ2	TRP	4355	16.624	-2.714	28.717	1.00	44.04
ATOM	9134	CZ3	TRP	4355	18.756	-2.037	29.679	1.00	44.74
ATOM	9135	CH2	TRP	4355	17.416	-1.760	29.309	1.00	44.65
ATOM	9136	C	TRP	4355	19.849	-8.759	29.621	1.00	36.51
ATOM	9137	O	TRP	4355	20.925	-9.351	29.460	1.00	36.52
ATOM	9138	N	LEU	4356	18.670	-9.343	29.468	1.00	35.94
ATOM	9139	CA	LEU	4356	18.578	-10.733	29.068	1.00	36.68
ATOM	9140	CB	LEU	4356	17.661	-11.489	30.040	1.00	36.27
ATOM	9141	CG	LEU	4356	17.500	-13.014	30.003	1.00	35.09
ATOM	9142	CD1	LEU	4356	16.069	-13.334	29.649	1.00	35.03
ATOM	9143	CD2	LEU	4356	18.483	-13.653	29.037	1.00	34.52
ATOM	9144	C	LEU	4356	18.022	-10.765	27.644	1.00	36.98
ATOM	9145	O	LEU	4356	16.918	-10.286	27.391	1.00	36.45
ATOM	9146	N	THR	4357	18.809	-11.305	26.717	1.00	37.76
ATOM	9147	CA	THR	4357	18.395	-11.402	25.317	1.00	39.53
ATOM	9148	CB	THR	4357	19.530	-10.920	24.360	1.00	40.26
ATOM	9149	OG1	THR	4357	19.758	-9.516	24.549	1.00	41.24
ATOM	9150	CG2	THR	4357	19.159	-11.177	22.905	1.00	40.07
ATOM	9151	C	THR	4357	18.044	-12.855	24.989	1.00	39.83
ATOM	9152	O	THR	4357	18.871	-13.752	25.158	1.00	39.54
ATOM	9153	N	VAL	4358	16.818	-13.082	24.527	1.00	40.67
ATOM	9154	CA	VAL	4358	16.385	-14.436	24.182	1.00	41.98
ATOM	9155	CB	VAL	4358	15.070	-14.821	24.897	1.00	42.07
ATOM	9156	CG1	VAL	4358	14.811	-16.301	24.697	1.00	42.58
ATOM	9157	CG2	VAL	4358	15.151	-14.484	26.397	1.00	41.10
ATOM	9158	C	VAL	4358	16.189	-14.621	22.675	1.00	42.68
ATOM	9159	O	VAL	4358	15.486	-13.842	22.024	1.00	42.98
ATOM	9160	N	LEU	4359	16.824	-15.653	22.125	1.00	43.36
ATOM	9161	CA	LEU	4359	16.713	-15.951	20.704	1.00	43.69
ATOM	9162	CB	LEU	4359	18.098	-15.973	20.069	1.00	43.39
ATOM	9163	CG	LEU	4359	19.024	-14.825	20.459	1.00	43.23
ATOM	9164	CD1	LEU	4359	20.393	-15.089	19.855	1.00	42.32
ATOM	9165	CD2	LEU	4359	18.449	-13.484	19.996	1.00	42.16
ATOM	9166	C	LEU	4359	16.032	-17.312	20.514	1.00	44.77
ATOM	9167	O	LEU	4359	15.610	-17.602	19.365	1.00	46.08
ATOM	9168	CB	MSE	5149	36.059	22.402	111.078	1.00	75.42
ATOM	9169	CG	MSE	5149	36.860	23.705	110.971	1.00	78.76
ATOM	9170	SE	MSE	5149	37.129	24.576	112.571	1.00	83.61

ATOM	9171	CE	MSE	5149	38.908	24.179	112.896	1.00	81.52
ATOM	9172	C	MSE	5149	34.158	22.843	109.510	1.00	71.79
ATOM	9173	O	MSE	5149	34.856	22.409	108.592	1.00	71.61
ATOM	9174	N	MSE	5149	33.861	21.325	111.432	1.00	72.73
ATOM	9175	CA	MSE	5149	34.539	22.569	110.968	1.00	73.11
ATOM	9176	N	PRO	5150	33.043	23.567	109.285	1.00	70.52
ATOM	9177	CD	PRO	5150	32.179	24.130	110.337	1.00	70.27
ATOM	9178	CA	PRO	5150	32.530	23.921	107.950	1.00	69.22
ATOM	9179	CB	PRO	5150	31.287	24.765	108.262	1.00	69.59
ATOM	9180	CG	PRO	5150	31.570	25.314	109.635	1.00	70.32
ATOM	9181	C	PRO	5150	33.518	24.642	107.030	1.00	67.89
ATOM	9182	O	PRO	5150	34.096	25.671	107.396	1.00	67.67
ATOM	9183	N	VAL	5151	33.696	24.087	105.831	1.00	66.29
ATOM	9184	CA	VAL	5151	34.613	24.644	104.838	1.00	64.43
ATOM	9185	CB	VAL	5151	35.904	23.786	104.721	1.00	65.08
ATOM	9186	CG1	VAL	5151	36.898	24.462	103.790	1.00	65.10
ATOM	9187	CG2	VAL	5151	36.522	23.573	106.096	1.00	64.97
ATOM	9188	C	VAL	5151	33.953	24.695	103.464	1.00	62.93
ATOM	9189	O	VAL	5151	33.521	23.668	102.935	1.00	63.17
ATOM	9190	N	ALA	5152	33.875	25.893	102.892	1.00	61.02
ATOM	9191	CA	ALA	5152	33.283	26.068	101.573	1.00	59.14
ATOM	9192	CB	ALA	5152	33.129	27.553	101.261	1.00	59.49
ATOM	9193	C	ALA	5152	34.207	25.399	100.557	1.00	57.59
ATOM	9194	O	ALA	5152	35.428	25.460	100.690	1.00	57.49
ATOM	9195	N	PRO	5153	33.631	24.768	99.522	1.00	56.28
ATOM	9196	CD	PRO	5153	32.217	24.951	99.143	1.00	56.11
ATOM	9197	CA	PRO	5153	34.370	24.067	98.462	1.00	55.06
ATOM	9198	CB	PRO	5153	33.285	23.781	97.424	1.00	55.51
ATOM	9199	CG	PRO	5153	32.285	24.898	97.650	1.00	55.82
ATOM	9200	C	PRO	5153	35.570	24.805	97.863	1.00	53.80
ATOM	9201	O	PRO	5153	35.512	26.010	97.617	1.00	53.63
ATOM	9202	N	TYR	5154	36.651	24.064	97.630	1.00	52.38
ATOM	9203	CA	TYR	5154	37.868	24.618	97.048	1.00	51.57
ATOM	9204	CB	TYR	5154	38.797	25.137	98.151	1.00	51.78
ATOM	9205	CG	TYR	5154	39.291	24.075	99.107	1.00	51.82
ATOM	9206	CD1	TYR	5154	38.446	23.521	100.067	1.00	52.13
ATOM	9207	CE1	TYR	5154	38.899	22.529	100.943	1.00	52.75
ATOM	9208	CD2	TYR	5154	40.605	23.615	99.042	1.00	52.16
ATOM	9209	CE2	TYR	5154	41.072	22.626	99.908	1.00	52.69
ATOM	9210	CZ	TYR	5154	40.214	22.084	100.856	1.00	53.31
ATOM	9211	OH	TYR	5154	40.670	21.085	101.698	1.00	54.40
ATOM	9212	C	TYR	5154	38.593	23.552	96.218	1.00	51.05
ATOM	9213	O	TYR	5154	38.495	22.355	96.504	1.00	50.78
ATOM	9214	N	TRP	5155	39.322	23.981	95.193	1.00	50.18
ATOM	9215	CA	TRP	5155	40.038	23.029	94.358	1.00	49.75
ATOM	9216	CB	TRP	5155	40.488	23.685	93.054	1.00	48.97
ATOM	9217	CG	TRP	5155	39.421	24.505	92.385	1.00	48.00
ATOM	9218	CD2	TRP	5155	38.188	24.036	91.811	1.00	47.50
ATOM	9219	CE2	TRP	5155	37.530	25.159	91.262	1.00	47.56
ATOM	9220	CE3	TRP	5155	37.577	22.777	91.705	1.00	47.39
ATOM	9221	CD1	TRP	5155	39.450	25.851	92.171	1.00	47.75
ATOM	9222	NE1	TRP	5155	38.324	26.252	91.498	1.00	47.87
ATOM	9223	CZ2	TRP	5155	36.285	25.066	90.610	1.00	46.86
ATOM	9224	CZ3	TRP	5155	36.335	22.684	91.056	1.00	47.18
ATOM	9225	CH2	TRP	5155	35.707	23.827	90.519	1.00	46.37
ATOM	9226	C	TRP	5155	41.241	22.525	95.134	1.00	50.17
ATOM	9227	O	TRP	5155	41.912	23.294	95.820	1.00	50.09
ATOM	9228	N	THR	5156	41.502	21.228	95.038	1.00	50.85
ATOM	9229	CA	THR	5156	42.625	20.637	95.741	1.00	51.79
ATOM	9230	CB	THR	5156	42.260	19.260	96.324	1.00	52.00
ATOM	9231	OG1	THR	5156	41.902	18.366	95.262	1.00	52.03
ATOM	9232	CG2	THR	5156	41.090	19.390	97.297	1.00	51.95

ATOM	9233	C	THR	5156	43.827	20.479	94.825	1.00	53.11
ATOM	9234	O	THR	5156	44.961	20.374	95.294	1.00	53.90
ATOM	9235	N	SER	5157	43.581	20.467	93.519	1.00	54.02
ATOM	9236	CA	SER	5157	44.652	20.314	92.542	1.00	55.05
ATOM	9237	CB	SER	5157	44.674	18.876	92.014	1.00	55.32
ATOM	9238	OG	SER	5157	44.910	17.948	93.063	1.00	56.15
ATOM	9239	C	SER	5157	44.465	21.278	91.383	1.00	55.44
ATOM	9240	O	SER	5157	44.398	20.860	90.231	1.00	55.47
ATOM	9241	N	PRO	5158	44.377	22.584	91.674	1.00	56.06
ATOM	9242	CD	PRO	5158	44.505	23.222	92.994	1.00	56.15
ATOM	9243	CA	PRO	5158	44.197	23.587	90.619	1.00	56.96
ATOM	9244	CB	PRO	5158	44.268	24.915	91.383	1.00	56.90
ATOM	9245	CG	PRO	5158	45.051	24.566	92.627	1.00	56.66
ATOM	9246	C	PRO	5158	45.257	23.465	89.520	1.00	57.69
ATOM	9247	O	PRO	5158	45.042	23.881	88.377	1.00	57.91
ATOM	9248	N	GLU	5159	46.394	22.876	89.875	1.00	58.31
ATOM	9249	CA	GLU	5159	47.488	22.676	88.926	1.00	58.87
ATOM	9250	CB	GLU	5159	48.687	21.999	89.596	1.00	59.06
ATOM	9251	CG	GLU	5159	49.257	22.713	90.805	1.00	59.82
ATOM	9252	CD	GLU	5159	48.350	22.630	92.014	1.00	60.02
ATOM	9253	OE1	GLU	5159	47.648	21.603	92.160	1.00	58.95
ATOM	9254	OE2	GLU	5159	48.356	23.588	92.821	1.00	61.02
ATOM	9255	C	GLU	5159	47.045	21.793	87.769	1.00	58.78
ATOM	9256	O	GLU	5159	47.365	22.061	86.617	1.00	59.46
ATOM	9257	N	LYS	5160	46.313	20.734	88.090	1.00	58.35
ATOM	9258	CA	LYS	5160	45.831	19.780	87.099	1.00	58.26
ATOM	9259	CB	LYS	5160	45.506	18.460	87.807	1.00	58.87
ATOM	9260	CG	LYS	5160	46.510	18.077	88.886	1.00	59.55
ATOM	9261	CD	LYS	5160	46.142	16.769	89.584	1.00	59.69
ATOM	9262	CE	LYS	5160	47.166	16.435	90.674	1.00	60.79
ATOM	9263	NZ	LYS	5160	46.815	15.217	91.462	1.00	61.04
ATOM	9264	C	LYS	5160	44.582	20.248	86.340	1.00	57.60
ATOM	9265	O	LYS	5160	43.939	19.449	85.651	1.00	57.47
ATOM	9266	N	MSE	5161	44.230	21.522	86.483	1.00	56.25
ATOM	9267	CA	MSE	5161	43.052	22.069	85.819	1.00	55.13
ATOM	9268	CB	MSE	5161	42.078	22.640	86.855	1.00	54.12
ATOM	9269	CG	MSE	5161	41.511	21.605	87.821	1.00	52.24
ATOM	9270	SE	MSE	5161	40.454	22.333	89.096	1.00	50.14
ATOM	9271	CE	MSE	5161	39.036	22.783	88.147	1.00	50.26
ATOM	9272	C	MSE	5161	43.481	23.157	84.846	1.00	55.17
ATOM	9273	O	MSE	5161	42.667	23.958	84.378	1.00	54.94
ATOM	9274	N	GLU	5162	44.778	23.164	84.552	1.00	55.25
ATOM	9275	CA	GLU	5162	45.392	24.124	83.642	1.00	55.36
ATOM	9276	CB	GLU	5162	46.895	23.867	83.571	1.00	57.30
ATOM	9277	CG	GLU	5162	47.702	24.426	84.721	1.00	59.83
ATOM	9278	CD	GLU	5162	47.766	25.938	84.682	1.00	61.57
ATOM	9279	OE1	GLU	5162	46.777	26.588	85.090	1.00	62.60
ATOM	9280	OE2	GLU	5162	48.803	26.475	84.228	1.00	62.35
ATOM	9281	C	GLU	5162	44.821	24.062	82.231	1.00	54.54
ATOM	9282	O	GLU	5162	44.301	25.050	81.712	1.00	54.64
ATOM	9283	N	LYS	5163	44.944	22.886	81.616	1.00	53.09
ATOM	9284	CA	LYS	5163	44.489	22.636	80.248	1.00	51.49
ATOM	9285	CB	LYS	5163	44.886	21.212	79.840	1.00	52.08
ATOM	9286	CG	LYS	5163	44.658	20.856	78.375	1.00	52.74
ATOM	9287	CD	LYS	5163	45.028	19.390	78.116	1.00	53.08
ATOM	9288	CE	LYS	5163	44.801	19.002	76.662	1.00	54.30
ATOM	9289	NZ	LYS	5163	45.029	17.545	76.390	1.00	54.51
ATOM	9290	C	LYS	5163	42.994	22.814	80.080	1.00	49.87
ATOM	9291	O	LYS	5163	42.214	21.950	80.461	1.00	50.15
ATOM	9292	N	LYS	5164	42.597	23.936	79.491	1.00	48.29
ATOM	9293	CA	LYS	5164	41.182	24.220	79.289	1.00	47.05
ATOM	9294	CB	LYS	5164	40.936	25.727	79.263	1.00	48.07

ATOM	9295	CG	LYS	5164	39.476	26.065	79.079	1.00	51.17
ATOM	9296	CD	LYS	5164	39.203	27.544	79.172	1.00	53.22
ATOM	9297	CE	LYS	5164	37.716	27.802	79.016	1.00	54.09
ATOM	9298	NZ	LYS	5164	37.417	29.258	78.847	1.00	56.43
ATOM	9299	C	LYS	5164	40.617	23.602	78.011	1.00	45.48
ATOM	9300	O	LYS	5164	39.503	23.083	78.007	1.00	45.08
ATOM	9301	N	LEU	5165	41.375	23.678	76.924	1.00	43.38
ATOM	9302	CA	LEU	5165	40.923	23.109	75.666	1.00	41.62
ATOM	9303	CB	LEU	5165	41.379	23.951	74.472	1.00	41.32
ATOM	9304	CG	LEU	5165	41.195	23.268	73.110	1.00	41.24
ATOM	9305	CD1	LEU	5165	39.740	22.925	72.870	1.00	41.29
ATOM	9306	CD2	LEU	5165	41.703	24.168	72.011	1.00	41.18
ATOM	9307	C	LEU	5165	41.421	21.686	75.485	1.00	40.96
ATOM	9308	O	LEU	5165	42.622	21.416	75.558	1.00	40.98
ATOM	9309	N	HIS	5166	40.488	20.776	75.253	1.00	39.24
ATOM	9310	CA	HIS	5166	40.840	19.392	75.047	1.00	38.05
ATOM	9311	CB	HIS	5166	40.090	18.502	76.029	1.00	40.32
ATOM	9312	CG	HIS	5166	40.919	17.381	76.558	1.00	42.46
ATOM	9313	CD2	HIS	5166	41.166	16.974	77.826	1.00	43.64
ATOM	9314	ND1	HIS	5166	41.654	16.553	75.735	1.00	44.15
ATOM	9315	CE1	HIS	5166	42.320	15.684	76.474	1.00	44.44
ATOM	9316	NE2	HIS	5166	42.043	15.918	77.747	1.00	45.31
ATOM	9317	C	HIS	5166	40.450	19.062	73.620	1.00	36.31
ATOM	9318	O	HIS	5166	39.263	19.005	73.280	1.00	35.77
ATOM	9319	N	ALA	5167	41.453	18.870	72.770	1.00	34.05
ATOM	9320	CA	ALA	5167	41.194	18.543	71.372	1.00	31.67
ATOM	9321	CB	ALA	5167	41.892	19.541	70.451	1.00	31.12
ATOM	9322	C	ALA	5167	41.688	17.128	71.116	1.00	30.02
ATOM	9323	O	ALA	5167	42.823	16.782	71.457	1.00	30.28
ATOM	9324	N	VAL	5168	40.830	16.301	70.535	1.00	27.85
ATOM	9325	CA	VAL	5168	41.197	14.915	70.282	1.00	26.98
ATOM	9326	CB	VAL	5168	40.760	13.981	71.427	1.00	26.63
ATOM	9327	CG1	VAL	5168	41.291	14.492	72.747	1.00	26.05
ATOM	9328	CG2	VAL	5168	39.234	13.865	71.450	1.00	26.09
ATOM	9329	C	VAL	5168	40.539	14.382	69.032	1.00	26.79
ATOM	9330	O	VAL	5168	39.528	14.917	68.569	1.00	26.91
ATOM	9331	N	PRO	5169	41.110	13.317	68.455	1.00	25.85
ATOM	9332	CD	PRO	5169	42.369	12.637	68.772	1.00	25.90
ATOM	9333	CA	PRO	5169	40.515	12.742	67.253	1.00	25.82
ATOM	9334	CB	PRO	5169	41.566	11.751	66.769	1.00	25.30
ATOM	9335	CG	PRO	5169	42.812	12.204	67.411	1.00	26.70
ATOM	9336	C	PRO	5169	39.271	11.994	67.725	1.00	25.95
ATOM	9337	O	PRO	5169	39.143	11.686	68.915	1.00	25.56
ATOM	9338	N	ALA	5170	38.362	11.704	66.807	1.00	25.17
ATOM	9339	CA	ALA	5170	37.154	10.957	67.150	1.00	25.99
ATOM	9340	CB	ALA	5170	36.235	10.822	65.934	1.00	24.37
ATOM	9341	C	ALA	5170	37.507	9.565	67.672	1.00	26.45
ATOM	9342	O	ALA	5170	38.564	9.001	67.340	1.00	27.47
ATOM	9343	N	ALA	5171	36.620	9.030	68.503	1.00	26.49
ATOM	9344	CA	ALA	5171	36.773	7.703	69.099	1.00	27.73
ATOM	9345	CB	ALA	5171	37.268	6.693	68.051	1.00	27.30
ATOM	9346	C	ALA	5171	37.662	7.637	70.351	1.00	28.26
ATOM	9347	O	ALA	5171	37.703	6.607	71.031	1.00	29.11
ATOM	9348	N	LYS	5172	38.380	8.711	70.659	1.00	28.06
ATOM	9349	CA	LYS	5172	39.210	8.729	71.867	1.00	28.45
ATOM	9350	CB	LYS	5172	40.168	9.923	71.872	1.00	29.22
ATOM	9351	CG	LYS	5172	41.542	9.646	71.302	1.00	31.73
ATOM	9352	CD	LYS	5172	42.610	9.696	72.391	1.00	32.76
ATOM	9353	CE	LYS	5172	42.800	11.114	72.901	1.00	33.23
ATOM	9354	NZ	LYS	5172	43.682	11.135	74.093	1.00	33.64
ATOM	9355	C	LYS	5172	38.344	8.848	73.115	1.00	28.61
ATOM	9356	O	LYS	5172	37.198	9.328	73.061	1.00	28.97

ATOM	9357	N	THR	5173	38.898	8.414	74.240	1.00	28.02
ATOM	9358	CA	THR	5173	38.202	8.518	75.508	1.00	28.22
ATOM	9359	CB	THR	5173	38.611	7.396	76.459	1.00	27.84
ATOM	9360	OG1	THR	5173	38.051	6.169	75.995	1.00	29.00
ATOM	9361	CG2	THR	5173	38.102	7.670	77.867	1.00	28.16
ATOM	9362	C	THR	5173	38.614	9.852	76.111	1.00	28.44
ATOM	9363	O	THR	5173	39.786	10.201	76.094	1.00	28.35
ATOM	9364	N	VAL	5174	37.651	10.601	76.630	1.00	29.02
ATOM	9365	CA	VAL	5174	37.935	11.894	77.233	1.00	29.46
ATOM	9366	CB	VAL	5174	37.173	13.010	76.499	1.00	29.63
ATOM	9367	CG1	VAL	5174	37.406	14.350	77.186	1.00	29.47
ATOM	9368	CG2	VAL	5174	37.628	13.066	75.044	1.00	29.89
ATOM	9369	C	VAL	5174	37.549	11.893	78.711	1.00	30.36
ATOM	9370	O	VAL	5174	36.501	11.381	79.102	1.00	29.66
ATOM	9371	N	LYS	5175	38.407	12.481	79.530	1.00	31.69
ATOM	9372	CA	LYS	5175	38.176	12.527	80.962	1.00	32.55
ATOM	9373	CB	LYS	5175	39.119	11.532	81.654	1.00	33.64
ATOM	9374	CG	LYS	5175	38.919	11.390	83.157	1.00	36.78
ATOM	9375	CD	LYS	5175	40.155	10.811	83.842	1.00	38.95
ATOM	9376	CE	LYS	5175	41.373	11.741	83.632	1.00	42.21
ATOM	9377	NZ	LYS	5175	42.633	11.362	84.376	1.00	42.57
ATOM	9378	C	LYS	5175	38.416	13.922	81.519	1.00	32.61
ATOM	9379	O	LYS	5175	39.503	14.467	81.388	1.00	33.39
ATOM	9380	N	PHE	5176	37.395	14.502	82.136	1.00	32.69
ATOM	9381	CA	PHE	5176	37.527	15.817	82.747	1.00	32.63
ATOM	9382	CB	PHE	5176	36.444	16.769	82.251	1.00	30.55
ATOM	9383	CG	PHE	5176	36.569	17.127	80.808	1.00	28.69
ATOM	9384	CD1	PHE	5176	37.792	17.553	80.289	1.00	28.35
ATOM	9385	CD2	PHE	5176	35.470	17.049	79.966	1.00	26.90
ATOM	9386	CE1	PHE	5176	37.919	17.898	78.946	1.00	27.95
ATOM	9387	CE2	PHE	5176	35.583	17.390	78.624	1.00	27.96
ATOM	9388	CZ	PHE	5176	36.816	17.818	78.109	1.00	27.38
ATOM	9389	C	PHE	5176	37.402	15.668	84.251	1.00	34.09
ATOM	9390	O	PHE	5176	36.590	14.885	84.744	1.00	34.68
ATOM	9391	N	LYS	5177	38.203	16.415	84.994	1.00	35.92
ATOM	9392	CA	LYS	5177	38.124	16.332	86.443	1.00	37.62
ATOM	9393	CB	LYS	5177	39.158	15.351	86.985	1.00	38.74
ATOM	9394	CG	LYS	5177	40.576	15.740	86.711	1.00	40.69
ATOM	9395	CD	LYS	5177	41.383	14.512	86.343	1.00	42.75
ATOM	9396	CE	LYS	5177	42.517	14.867	85.378	1.00	44.42
ATOM	9397	NZ	LYS	5177	43.175	13.636	84.868	1.00	43.88
ATOM	9398	C	LYS	5177	38.277	17.669	87.137	1.00	38.24
ATOM	9399	O	LYS	5177	38.922	18.586	86.641	1.00	38.38
ATOM	9400	N	CYS	5178	37.651	17.767	88.299	1.00	39.72
ATOM	9401	CA	CYS	5178	37.688	18.976	89.115	1.00	40.88
ATOM	9402	CB	CYS	5178	36.373	19.740	89.002	1.00	41.52
ATOM	9403	SG	CYS	5178	36.124	20.359	87.363	1.00	43.45
ATOM	9404	C	CYS	5178	37.898	18.579	90.556	1.00	40.80
ATOM	9405	O	CYS	5178	37.000	18.723	91.383	1.00	40.28
ATOM	9406	N	PRO	5179	39.092	18.068	90.875	1.00	41.43
ATOM	9407	CD	PRO	5179	40.304	18.022	90.046	1.00	41.50
ATOM	9408	CA	PRO	5179	39.383	17.653	92.245	1.00	42.43
ATOM	9409	CB	PRO	5179	40.821	17.160	92.160	1.00	41.49
ATOM	9410	CG	PRO	5179	41.395	18.005	91.091	1.00	42.40
ATOM	9411	C	PRO	5179	39.197	18.805	93.220	1.00	43.71
ATOM	9412	O	PRO	5179	39.813	19.866	93.091	1.00	44.35
ATOM	9413	N	SER	5180	38.309	18.602	94.179	1.00	44.77
ATOM	9414	CA	SER	5180	38.048	19.622	95.171	1.00	46.23
ATOM	9415	CB	SER	5180	36.919	20.546	94.707	1.00	46.96
ATOM	9416	OG	SER	5180	35.795	19.820	94.254	1.00	48.19
ATOM	9417	C	SER	5180	37.716	19.001	96.511	1.00	46.86
ATOM	9418	O	SER	5180	37.765	17.779	96.679	1.00	46.74

ATOM	9419	N	SER	5181	37.384	19.855	97.469	1.00	47.71
ATOM	9420	CA	SER	5181	37.075	19.394	98.810	1.00	48.54
ATOM	9421	CB	SER	5181	38.380	19.139	99.567	1.00	48.54
ATOM	9422	OG	SER	5181	38.133	18.606	100.851	1.00	49.12
ATOM	9423	C	SER	5181	36.252	20.436	99.548	1.00	49.06
ATOM	9424	O	SER	5181	35.925	21.491	99.002	1.00	48.80
ATOM	9425	N	GLY	5182	35.930	20.130	100.799	1.00	49.92
ATOM	9426	CA	GLY	5182	35.149	21.039	101.611	1.00	50.58
ATOM	9427	C	GLY	5182	34.309	20.234	102.576	1.00	51.41
ATOM	9428	O	GLY	5182	34.127	19.029	102.403	1.00	51.48
ATOM	9429	N	THR	5183	33.788	20.900	103.596	1.00	52.15
ATOM	9430	CA	THR	5183	32.971	20.231	104.602	1.00	52.34
ATOM	9431	CB	THR	5183	33.773	20.043	105.903	1.00	53.14
ATOM	9432	OG1	THR	5183	34.504	21.246	106.175	1.00	54.65
ATOM	9433	CG2	THR	5183	34.750	18.879	105.773	1.00	53.07
ATOM	9434	C	THR	5183	31.721	21.046	104.918	1.00	51.79
ATOM	9435	O	THR	5183	31.813	22.232	105.238	1.00	51.45
ATOM	9436	N	PRO	5184	30.533	20.418	104.821	1.00	51.56
ATOM	9437	CD	PRO	5184	29.228	21.096	104.935	1.00	51.51
ATOM	9438	CA	PRO	5184	30.367	19.011	104.431	1.00	51.20
ATOM	9439	CB	PRO	5184	28.862	18.797	104.575	1.00	51.59
ATOM	9440	CG	PRO	5184	28.299	20.153	104.195	1.00	51.73
ATOM	9441	C	PRO	5184	30.864	18.748	103.002	1.00	51.20
ATOM	9442	O	PRO	5184	31.060	19.688	102.226	1.00	51.48
ATOM	9443	N	GLN	5185	31.082	17.480	102.664	1.00	50.73
ATOM	9444	CA	GLN	5185	31.544	17.119	101.325	1.00	50.41
ATOM	9445	CB	GLN	5185	31.572	15.599	101.139	1.00	51.37
ATOM	9446	CG	GLN	5185	32.857	14.959	101.600	1.00	53.16
ATOM	9447	CD	GLN	5185	34.027	15.377	100.749	1.00	54.24
ATOM	9448	OE1	GLN	5185	34.063	15.094	99.549	1.00	54.60
ATOM	9449	NE2	GLN	5185	34.994	16.061	101.358	1.00	54.51
ATOM	9450	C	GLN	5185	30.616	17.716	100.286	1.00	49.53
ATOM	9451	O	GLN	5185	29.402	17.511	100.339	1.00	49.75
ATOM	9452	N	PRO	5186	31.173	18.479	99.331	1.00	48.36
ATOM	9453	CD	PRO	5186	32.557	18.983	99.300	1.00	47.70
ATOM	9454	CA	PRO	5186	30.361	19.101	98.279	1.00	47.49
ATOM	9455	CB	PRO	5186	31.269	20.206	97.757	1.00	47.56
ATOM	9456	CG	PRO	5186	32.638	19.615	97.941	1.00	47.97
ATOM	9457	C	PRO	5186	29.920	18.124	97.179	1.00	46.58
ATOM	9458	O	PRO	5186	30.589	17.126	96.906	1.00	46.38
ATOM	9459	N	THR	5187	28.777	18.408	96.566	1.00	45.81
ATOM	9460	CA	THR	5187	28.257	17.564	95.497	1.00	45.17
ATOM	9461	CB	THR	5187	26.743	17.717	95.345	1.00	45.69
ATOM	9462	OG1	THR	5187	26.419	19.111	95.208	1.00	45.30
ATOM	9463	CG2	THR	5187	26.023	17.115	96.544	1.00	44.98
ATOM	9464	C	THR	5187	28.894	17.979	94.183	1.00	44.70
ATOM	9465	O	THR	5187	29.455	19.070	94.065	1.00	44.83
ATOM	9466	N	LEU	5188	28.788	17.116	93.186	1.00	44.03
ATOM	9467	CA	LEU	5188	29.375	17.402	91.890	1.00	42.91
ATOM	9468	CB	LEU	5188	30.706	16.643	91.765	1.00	43.62
ATOM	9469	CG	LEU	5188	31.532	16.512	90.478	1.00	43.43
ATOM	9470	CD1	LEU	5188	31.034	15.337	89.689	1.00	43.74
ATOM	9471	CD2	LEU	5188	31.486	17.791	89.669	1.00	43.48
ATOM	9472	C	LEU	5188	28.434	17.033	90.757	1.00	42.36
ATOM	9473	O	LEU	5188	27.991	15.884	90.646	1.00	42.60
ATOM	9474	N	ARG	5189	28.099	18.023	89.937	1.00	41.15
ATOM	9475	CA	ARG	5189	27.256	17.773	88.782	1.00	39.57
ATOM	9476	CB	ARG	5189	25.816	18.241	89.020	1.00	39.71
ATOM	9477	CG	ARG	5189	25.565	19.721	89.194	1.00	39.79
ATOM	9478	CD	ARG	5189	24.065	19.895	89.489	1.00	39.62
ATOM	9479	NE	ARG	5189	23.508	21.120	88.928	1.00	40.24
ATOM	9480	CZ	ARG	5189	23.718	22.332	89.429	1.00	41.01

ATOM	9481	NH1	ARG	5189	24.477	22.476	90.513	1.00	41.24
ATOM	9482	NH2	ARG	5189	23.167	23.398	88.849	1.00	40.49
ATOM	9483	C	ARG	5189	27.885	18.445	87.559	1.00	38.45
ATOM	9484	O	ARG	5189	28.615	19.437	87.680	1.00	37.05
ATOM	9485	N	TRP	5190	27.627	17.876	86.385	1.00	36.80
ATOM	9486	CA	TRP	5190	28.195	18.402	85.166	1.00	34.85
ATOM	9487	CB	TRP	5190	28.998	17.318	84.458	1.00	34.46
ATOM	9488	CG	TRP	5190	30.226	16.850	85.199	1.00	32.88
ATOM	9489	CD2	TRP	5190	31.565	17.330	85.019	1.00	31.94
ATOM	9490	CE2	TRP	5190	32.395	16.591	85.896	1.00	31.88
ATOM	9491	CE3	TRP	5190	32.143	18.309	84.199	1.00	31.30
ATOM	9492	CD1	TRP	5190	30.295	15.871	86.153	1.00	32.61
ATOM	9493	NE1	TRP	5190	31.598	15.708	86.574	1.00	32.37
ATOM	9494	CZ2	TRP	5190	33.776	16.806	85.975	1.00	31.55
ATOM	9495	CZ3	TRP	5190	33.519	18.521	84.276	1.00	29.99
ATOM	9496	CH2	TRP	5190	34.317	17.774	85.159	1.00	30.87
ATOM	9497	C	TRP	5190	27.166	18.957	84.210	1.00	34.86
ATOM	9498	O	TRP	5190	26.036	18.481	84.139	1.00	35.73
ATOM	9499	N	LEU	5191	27.573	19.974	83.463	1.00	34.56
ATOM	9500	CA	LEU	5191	26.704	20.597	82.478	1.00	34.59
ATOM	9501	CB	LEU	5191	26.460	22.067	82.837	1.00	34.71
ATOM	9502	CG	LEU	5191	25.847	22.414	84.199	1.00	34.90
ATOM	9503	CD1	LEU	5191	25.948	23.911	84.419	1.00	34.59
ATOM	9504	CD2	LEU	5191	24.400	21.955	84.268	1.00	33.97
ATOM	9505	C	LEU	5191	27.367	20.529	81.106	1.00	34.32
ATOM	9506	O	LEU	5191	28.587	20.514	80.996	1.00	33.61
ATOM	9507	N	LYS	5192	26.553	20.483	80.063	1.00	34.61
ATOM	9508	CA	LYS	5192	27.049	20.460	78.698	1.00	35.08
ATOM	9509	CB	LYS	5192	26.543	19.207	77.974	1.00	35.25
ATOM	9510	CG	LYS	5192	26.711	19.222	76.455	1.00	34.36
ATOM	9511	CD	LYS	5192	27.488	18.009	75.994	1.00	34.05
ATOM	9512	CE	LYS	5192	27.512	17.875	74.473	1.00	33.06
ATOM	9513	NZ	LYS	5192	26.219	17.386	73.952	1.00	32.26
ATOM	9514	C	LYS	5192	26.487	21.728	78.061	1.00	35.53
ATOM	9515	O	LYS	5192	25.279	21.855	77.859	1.00	34.88
ATOM	9516	N	ASN	5193	27.368	22.674	77.768	1.00	36.56
ATOM	9517	CA	ASN	5193	26.970	23.949	77.191	1.00	37.26
ATOM	9518	CB	ASN	5193	26.424	23.747	75.782	1.00	37.99
ATOM	9519	CG	ASN	5193	27.463	23.180	74.855	1.00	38.44
ATOM	9520	OD1	ASN	5193	28.636	23.561	74.927	1.00	38.95
ATOM	9521	ND2	ASN	5193	27.050	22.272	73.974	1.00	38.13
ATOM	9522	C	ASN	5193	25.956	24.676	78.064	1.00	37.84
ATOM	9523	O	ASN	5193	24.969	25.231	77.569	1.00	38.66
ATOM	9524	N	GLY	5194	26.213	24.662	79.369	1.00	37.72
ATOM	9525	CA	GLY	5194	25.346	25.342	80.308	1.00	38.71
ATOM	9526	C	GLY	5194	24.060	24.652	80.714	1.00	39.68
ATOM	9527	O	GLY	5194	23.416	25.079	81.671	1.00	40.31
ATOM	9528	N	LYS	5195	23.668	23.605	80.000	1.00	40.23
ATOM	9529	CA	LYS	5195	22.446	22.897	80.350	1.00	41.75
ATOM	9530	CB	LYS	5195	21.627	22.578	79.100	1.00	43.35
ATOM	9531	CG	LYS	5195	21.058	23.815	78.448	1.00	45.41
ATOM	9532	CD	LYS	5195	19.878	23.487	77.560	1.00	47.18
ATOM	9533	CE	LYS	5195	19.229	24.772	77.059	1.00	48.84
ATOM	9534	NZ	LYS	5195	20.237	25.692	76.428	1.00	49.22
ATOM	9535	C	LYS	5195	22.705	21.616	81.130	1.00	42.05
ATOM	9536	O	LYS	5195	23.853	21.204	81.316	1.00	41.86
ATOM	9537	N	GLU	5196	21.632	20.992	81.601	1.00	42.29
ATOM	9538	CA	GLU	5196	21.771	19.760	82.353	1.00	42.98
ATOM	9539	CB	GLU	5196	20.426	19.341	82.943	1.00	45.07
ATOM	9540	CG	GLU	5196	20.538	18.212	83.963	1.00	47.86
ATOM	9541	CD	GLU	5196	19.194	17.800	84.549	1.00	49.50
ATOM	9542	OE1	GLU	5196	19.187	16.920	85.448	1.00	49.96

ATOM	9543	OE2	GLU	5196	18.154	18.351	84.108	1.00	50.22
ATOM	9544	C	GLU	5196	22.288	18.675	81.416	1.00	42.25
ATOM	9545	O	GLU	5196	21.910	18.623	80.247	1.00	42.56
ATOM	9546	N	PHE	5197	23.159	17.815	81.926	1.00	41.43
ATOM	9547	CA	PHE	5197	23.712	16.742	81.114	1.00	40.97
ATOM	9548	CB	PHE	5197	25.237	16.895	81.011	1.00	39.97
ATOM	9549	CG	PHE	5197	25.876	16.024	79.959	1.00	38.60
ATOM	9550	CD1	PHE	5197	25.252	15.813	78.730	1.00	38.13
ATOM	9551	CD2	PHE	5197	27.126	15.452	80.180	1.00	38.30
ATOM	9552	CE1	PHE	5197	25.860	15.047	77.741	1.00	36.86
ATOM	9553	CE2	PHE	5197	27.745	14.683	79.192	1.00	38.21
ATOM	9554	CZ	PHE	5197	27.110	14.482	77.974	1.00	37.53
ATOM	9555	C	PHE	5197	23.339	15.385	81.703	1.00	41.06
ATOM	9556	O	PHE	5197	23.682	15.068	82.839	1.00	40.43
ATOM	9557	N	LYS	5198	22.606	14.600	80.929	1.00	41.64
ATOM	9558	CA	LYS	5198	22.191	13.278	81.368	1.00	41.76
ATOM	9559	CB	LYS	5198	20.669	13.157	81.321	1.00	43.01
ATOM	9560	CG	LYS	5198	19.945	14.133	82.246	1.00	44.73
ATOM	9561	CD	LYS	5198	18.431	13.996	82.101	1.00	46.42
ATOM	9562	CE	LYS	5198	17.698	14.824	83.149	1.00	47.27
ATOM	9563	NZ	LYS	5198	16.216	14.653	83.058	1.00	47.56
ATOM	9564	C	LYS	5198	22.816	12.215	80.485	1.00	41.34
ATOM	9565	O	LYS	5198	22.965	12.401	79.273	1.00	41.14
ATOM	9566	N	PRO	5199	23.208	11.089	81.086	1.00	40.95
ATOM	9567	CD	PRO	5199	23.194	10.791	82.523	1.00	40.54
ATOM	9568	CA	PRO	5199	23.821	9.988	80.341	1.00	40.68
ATOM	9569	CB	PRO	5199	23.856	8.847	81.360	1.00	41.12
ATOM	9570	CG	PRO	5199	22.953	9.323	82.505	1.00	40.85
ATOM	9571	C	PRO	5199	23.092	9.621	79.056	1.00	40.43
ATOM	9572	O	PRO	5199	23.722	9.227	78.084	1.00	41.10
ATOM	9573	N	ASP	5200	21.774	9.765	79.031	1.00	40.57
ATOM	9574	CA	ASP	5200	21.021	9.431	77.822	1.00	41.32
ATOM	9575	CB	ASP	5200	19.523	9.348	78.109	1.00	43.16
ATOM	9576	CG	ASP	5200	19.143	8.119	78.907	1.00	45.37
ATOM	9577	OD1	ASP	5200	18.487	8.303	79.957	1.00	46.96
ATOM	9578	OD2	ASP	5200	19.490	6.982	78.492	1.00	45.44
ATOM	9579	C	ASP	5200	21.230	10.432	76.698	1.00	40.91
ATOM	9580	O	ASP	5200	20.683	10.266	75.602	1.00	40.29
ATOM	9581	N	HIS	5201	22.003	11.479	76.968	1.00	40.30
ATOM	9582	CA	HIS	5201	22.264	12.496	75.958	1.00	39.47
ATOM	9583	CB	HIS	5201	22.786	13.788	76.597	1.00	40.09
ATOM	9584	CG	HIS	5201	21.761	14.533	77.394	1.00	40.40
ATOM	9585	CD2	HIS	5201	21.895	15.498	78.335	1.00	40.24
ATOM	9586	ND1	HIS	5201	20.406	14.339	77.235	1.00	40.89
ATOM	9587	CE1	HIS	5201	19.748	15.149	78.045	1.00	40.51
ATOM	9588	NE2	HIS	5201	20.629	15.863	78.724	1.00	41.32
ATOM	9589	C	HIS	5201	23.267	12.028	74.914	1.00	38.37
ATOM	9590	O	HIS	5201	23.441	12.680	73.892	1.00	38.58
ATOM	9591	N	ARG	5202	23.941	10.913	75.172	1.00	37.04
ATOM	9592	CA	ARG	5202	24.901	10.398	74.207	1.00	36.25
ATOM	9593	CB	ARG	5202	26.316	10.922	74.527	1.00	34.96
ATOM	9594	CG	ARG	5202	26.984	10.323	75.761	1.00	33.46
ATOM	9595	CD	ARG	5202	28.284	11.056	76.141	1.00	31.99
ATOM	9596	NE	ARG	5202	29.298	11.059	75.090	1.00	30.02
ATOM	9597	CZ	ARG	5202	30.122	10.050	74.823	1.00	29.98
ATOM	9598	NH1	ARG	5202	30.066	8.933	75.540	1.00	30.02
ATOM	9599	NH2	ARG	5202	30.993	10.149	73.820	1.00	27.77
ATOM	9600	C	ARG	5202	24.871	8.879	74.222	1.00	36.67
ATOM	9601	O	ARG	5202	24.640	8.273	75.264	1.00	37.17
ATOM	9602	N	ILE	5203	25.074	8.266	73.062	1.00	37.06
ATOM	9603	CA	ILE	5203	25.083	6.816	72.977	1.00	38.70
ATOM	9604	CB	ILE	5203	25.327	6.355	71.531	1.00	39.18

ATOM	9605	CG2	ILE	5203	24.060	6.559	70.712	1.00	39.02
ATOM	9606	CG1	ILE	5203	26.521	7.129	70.945	1.00	40.64
ATOM	9607	CD1	ILE	5203	26.996	6.643	69.563	1.00	41.41
ATOM	9608	C	ILE	5203	26.205	6.290	73.874	1.00	39.36
ATOM	9609	O	ILE	5203	27.359	6.730	73.773	1.00	38.86
ATOM	9610	N	GLY	5204	25.857	5.360	74.760	1.00	39.58
ATOM	9611	CA	GLY	5204	26.846	4.809	75.663	1.00	39.81
ATOM	9612	C	GLY	5204	26.931	5.612	76.941	1.00	39.53
ATOM	9613	O	GLY	5204	27.554	5.183	77.907	1.00	40.63
ATOM	9614	N	GLY	5205	26.309	6.786	76.943	1.00	39.01
ATOM	9615	CA	GLY	5205	26.322	7.632	78.124	1.00	38.72
ATOM	9616	C	GLY	5205	27.715	8.001	78.583	1.00	38.43
ATOM	9617	O	GLY	5205	28.653	8.032	77.791	1.00	38.58
ATOM	9618	N	TYR	5206	27.849	8.284	79.869	1.00	38.68
ATOM	9619	CA	TYR	5206	29.127	8.655	80.444	1.00	39.09
ATOM	9620	CB	TYR	5206	29.319	10.162	80.342	1.00	38.47
ATOM	9621	CG	TYR	5206	28.275	10.950	81.077	1.00	39.10
ATOM	9622	CD1	TYR	5206	28.337	11.106	82.458	1.00	39.20
ATOM	9623	CE1	TYR	5206	27.371	11.839	83.146	1.00	39.80
ATOM	9624	CD2	TYR	5206	27.213	11.548	80.395	1.00	39.86
ATOM	9625	CE2	TYR	5206	26.243	12.282	81.073	1.00	39.98
ATOM	9626	CZ	TYR	5206	26.330	12.423	82.447	1.00	40.02
ATOM	9627	OH	TYR	5206	25.380	13.150	83.126	1.00	40.77
ATOM	9628	C	TYR	5206	29.191	8.195	81.901	1.00	39.81
ATOM	9629	O	TYR	5206	28.188	7.781	82.478	1.00	39.76
ATOM	9630	N	LYS	5207	30.376	8.270	82.493	1.00	40.54
ATOM	9631	CA	LYS	5207	30.579	7.813	83.852	1.00	41.86
ATOM	9632	CB	LYS	5207	31.600	6.677	83.863	1.00	42.70
ATOM	9633	CG	LYS	5207	31.099	5.369	83.308	1.00	44.72
ATOM	9634	CD	LYS	5207	30.358	4.608	84.378	1.00	45.94
ATOM	9635	CE	LYS	5207	30.673	3.128	84.295	1.00	47.00
ATOM	9636	NZ	LYS	5207	30.186	2.416	95.512	1.00	47.67
ATOM	9637	C	LYS	5207	31.103	8.906	84.745	1.00	41.86
ATOM	9638	O	LYS	5207	32.077	9.558	84.401	1.00	42.79
ATOM	9639	N	VAL	5208	30.480	9.096	85.902	1.00	42.21
ATOM	9640	CA	VAL	5208	30.950	10.091	86.847	1.00	42.27
ATOM	9641	CB	VAL	5208	29.834	11.040	87.270	1.00	42.10
ATOM	9642	CG1	VAL	5208	30.334	11.964	88.368	1.00	41.73
ATOM	9643	CG2	VAL	5208	29.368	11.844	86.080	1.00	41.58
ATOM	9644	C	VAL	5208	31.476	9.377	88.074	1.00	42.67
ATOM	9645	O	VAL	5208	30.707	8.764	88.803	1.00	42.91
ATOM	9646	N	ARG	5209	32.787	9.422	88.287	1.00	43.66
ATOM	9647	CA	ARG	5209	33.357	8.791	89.470	1.00	44.18
ATOM	9648	CB	ARG	5209	34.670	8.087	89.154	1.00	46.05
ATOM	9649	CG	ARG	5209	35.055	7.141	90.277	1.00	49.41
ATOM	9650	CD	ARG	5209	36.445	6.550	90.129	1.00	51.70
ATOM	9651	NE	ARG	5209	36.775	5.738	91.299	1.00	53.42
ATOM	9652	CZ	ARG	5209	37.913	5.066	91.453	1.00	54.40
ATOM	9653	NH1	ARG	5209	38.849	5.101	90.505	1.00	54.90
ATOM	9654	NH2	ARG	5209	38.118	4.360	92.559	1.00	54.33
ATOM	9655	C	ARG	5209	33.589	9.923	90.457	1.00	43.66
ATOM	9656	O	ARG	5209	34.512	10.725	90.292	1.00	43.48
ATOM	9657	N	TYR	5210	32.741	9.985	91.478	1.00	42.71
ATOM	9658	CA	TYR	5210	32.826	11.056	92.453	1.00	41.92
ATOM	9659	CB	TYR	5210	31.567	11.066	93.320	1.00	40.59
ATOM	9660	CG	TYR	5210	30.321	11.398	92.514	1.00	39.29
ATOM	9661	CD1	TYR	5210	29.601	10.400	91.842	1.00	38.84
ATOM	9662	CE1	TYR	5210	28.473	10.710	91.068	1.00	37.89
ATOM	9663	CD2	TYR	5210	29.889	12.712	92.391	1.00	38.87
ATOM	9664	CE2	TYR	5210	28.770	13.038	91.618	1.00	39.02
ATOM	9665	CZ	TYR	5210	28.063	12.036	90.960	1.00	38.69
ATOM	9666	OH	TYR	5210	26.953	12.381	90.212	1.00	37.37

ATOM	9667	C	TYR	5210	34.088	11.051	93.294	1.00	41.80
ATOM	9668	O	TYR	5210	34.559	12.105	93.715	1.00	42.31
ATOM	9669	N	ALA	5211	34.656	9.873	93.505	1.00	41.25
ATOM	9670	CA	ALA	5211	35.876	9.762	94.289	1.00	41.02
ATOM	9671	CB	ALA	5211	36.284	8.279	94.417	1.00	40.83
ATOM	9672	C	ALA	5211	37.006	10.567	93.639	1.00	40.99
ATOM	9673	O	ALA	5211	37.860	11.125	94.329	1.00	41.22
ATOM	9674	N	THR	5212	37.007	10.618	92.311	1.00	40.25
ATOM	9675	CA	THR	5212	38.030	11.343	91.579	1.00	39.35
ATOM	9676	CB	THR	5212	38.651	10.460	90.482	1.00	39.17
ATOM	9677	OG1	THR	5212	37.609	9.818	89.735	1.00	39.57
ATOM	9678	CG2	THR	5212	39.551	9.414	91.095	1.00	38.77
ATOM	9679	C	THR	5212	37.503	12.630	90.943	1.00	39.23
ATOM	9680	O	THR	5212	38.187	13.258	90.127	1.00	39.96
ATOM	9681	N	TRP	5213	36.289	13.027	91.309	1.00	38.45
ATOM	9682	CA	TRP	5213	35.711	14.254	90.768	1.00	38.05
ATOM	9683	CB	TRP	5213	36.420	15.454	91.377	1.00	38.33
ATOM	9684	CG	TRP	5213	36.424	15.389	92.844	1.00	39.08
ATOM	9685	CD2	TRP	5213	35.425	15.924	93.717	1.00	39.01
ATOM	9686	CE2	TRP	5213	35.764	15.528	95.027	1.00	39.02
ATOM	9687	CE3	TRP	5213	34.273	16.699	93.517	1.00	38.76
ATOM	9688	CD1	TRP	5213	37.310	14.712	93.636	1.00	38.45
ATOM	9689	NE1	TRP	5213	36.917	14.790	94.947	1.00	38.46
ATOM	9690	CZ2	TRP	5213	34.987	15.882	96.139	1.00	40.02
ATOM	9691	CZ3	TRP	5213	33.502	17.053	94.617	1.00	38.88
ATOM	9692	CH2	TRP	5213	33.862	16.644	95.913	1.00	39.28
ATOM	9693	C	TRP	5213	35.864	14.302	89.258	1.00	37.71
ATOM	9694	O	TRP	5213	36.275	15.320	88.701	1.00	37.23
ATOM	9695	N	SER	5214	35.530	13.203	88.596	1.00	37.39
ATOM	9696	CA	SER	5214	35.683	13.150	87.160	1.00	36.89
ATOM	9697	CB	SER	5214	36.911	12.321	86.826	1.00	37.30
ATOM	9698	OG	SER	5214	36.828	11.070	87.467	1.00	39.11
ATOM	9699	C	SER	5214	34.491	12.611	86.404	1.00	36.13
ATOM	9700	O	SER	5214	33.610	11.958	86.968	1.00	36.69
ATOM	9701	N	ILE	5215	34.476	12.920	85.113	1.00	34.72
ATOM	9702	CA	ILE	5215	33.440	12.465	84.207	1.00	33.30
ATOM	9703	CB	ILE	5215	32.576	13.622	83.679	1.00	32.59
ATOM	9704	CG2	ILE	5215	33.455	14.699	83.080	1.00	31.09
ATOM	9705	CG1	ILE	5215	31.573	13.079	82.654	1.00	32.09
ATOM	9706	CD1	ILE	5215	30.401	14.021	82.360	1.00	32.07
ATOM	9707	C	ILE	5215	34.204	11.847	83.058	1.00	32.78
ATOM	9708	O	ILE	5215	35.187	12.412	82.592	1.00	32.85
ATOM	9709	N	ILE	5216	33.775	10.674	82.623	1.00	32.21
ATOM	9710	CA	ILE	5216	34.439	9.996	81.526	1.00	31.79
ATOM	9711	CB	ILE	5216	35.035	8.677	82.003	1.00	31.89
ATOM	9712	CG2	ILE	5216	35.644	7.923	80.842	1.00	30.65
ATOM	9713	CG1	ILE	5216	36.084	8.970	83.072	1.00	33.24
ATOM	9714	CD1	ILE	5216	36.552	7.742	83.840	1.00	34.55
ATOM	9715	C	ILE	5216	33.490	9.732	80.360	1.00	31.66
ATOM	9716	O	ILE	5216	32.371	9.244	80.540	1.00	31.63
ATOM	9717	N	MSE	5217	33.930	10.089	79.161	1.00	31.28
ATOM	9718	CA	MSE	5217	33.132	9.856	77.968	1.00	31.27
ATOM	9719	CB	MSE	5217	32.842	11.152	77.203	1.00	30.34
ATOM	9720	CG	MSE	5217	31.776	12.027	77.818	1.00	29.50
ATOM	9721	SE	MSE	5217	31.459	13.568	76.902	1.00	28.13
ATOM	9722	CE	MSE	5217	32.608	14.656	77.722	1.00	28.46
ATOM	9723	C	MSE	5217	33.964	8.951	77.101	1.00	31.69
ATOM	9724	O	MSE	5217	35.086	9.286	76.738	1.00	31.92
ATOM	9725	N	ASP	5218	33.415	7.788	76.787	1.00	32.64
ATOM	9726	CA	ASP	5218	34.105	6.823	75.955	1.00	32.71
ATOM	9727	CB	ASP	5218	33.656	5.416	76.379	1.00	34.17
ATOM	9728	CG	ASP	5218	34.570	4.324	75.860	1.00	36.63

ATOM	9729	OD1	ASP	5218	34.186	3.642	74.888	1.00	37.52
ATOM	9730	OD2	ASP	5218	35.678	4.147	76.418	1.00	38.86
ATOM	9731	C	ASP	5218	33.766	7.124	74.492	1.00	31.64
ATOM	9732	O	ASP	5218	32.662	7.568	74.185	1.00	31.91
ATOM	9733	N	SER	5219	34.742	6.921	73.615	1.00	31.36
ATOM	9734	CA	SER	5219	34.610	7.133	72.178	1.00	30.35
ATOM	9735	CB	SER	5219	33.950	5.899	71.574	1.00	30.24
ATOM	9736	OG	SER	5219	34.314	5.759	70.209	1.00	34.80
ATOM	9737	C	SER	5219	33.873	8.415	71.764	1.00	29.48
ATOM	9738	O	SER	5219	32.766	8.368	71.230	1.00	29.70
ATOM	9739	N	VAL	5220	34.499	9.562	72.001	1.00	28.38
ATOM	9740	CA	VAL	5220	33.888	10.833	71.650	1.00	27.54
ATOM	9741	CB	VAL	5220	34.767	11.980	72.103	1.00	27.07
ATOM	9742	CG1	VAL	5220	34.795	12.008	73.624	1.00	27.24
ATOM	9743	CG2	VAL	5220	36.170	11.812	71.539	1.00	26.92
ATOM	9744	C	VAL	5220	33.641	10.952	70.159	1.00	27.45
ATOM	9745	O	VAL	5220	34.363	10.379	69.358	1.00	28.70
ATOM	9746	N	VAL	5221	32.607	11.702	69.796	1.00	27.41
ATOM	9747	CA	VAL	5221	32.230	11.925	68.406	1.00	26.02
ATOM	9748	CB	VAL	5221	30.913	11.171	68.071	1.00	26.76
ATOM	9749	CG1	VAL	5221	31.147	9.679	68.009	1.00	25.30
ATOM	9750	CG2	VAL	5221	29.841	11.482	69.143	1.00	24.94
ATOM	9751	C	VAL	5221	31.966	13.420	68.243	1.00	26.31
ATOM	9752	O	VAL	5221	31.818	14.145	69.225	1.00	26.45
ATOM	9753	N	PRO	5222	31.884	13.892	67.000	1.00	26.22
ATOM	9754	CD	PRO	5222	31.902	13.062	65.780	1.00	25.49
ATOM	9755	CA	PRO	5222	31.631	15.301	66.691	1.00	26.25
ATOM	9756	CB	PRO	5222	31.238	15.246	65.218	1.00	26.04
ATOM	9757	CG	PRO	5222	32.040	14.090	64.693	1.00	25.59
ATOM	9758	C	PRO	5222	30.522	15.933	67.552	1.00	27.15
ATOM	9759	O	PRO	5222	30.647	17.072	68.005	1.00	27.54
ATOM	9760	N	SER	5223	29.436	15.197	67.776	1.00	27.49
ATOM	9761	CA	SER	5223	28.328	15.746	68.553	1.00	28.52
ATOM	9762	CB	SER	5223	27.044	14.914	68.374	1.00	27.47
ATOM	9763	OG	SER	5223	27.150	13.608	68.918	1.00	27.06
ATOM	9764	C	SER	5223	28.649	15.911	70.039	1.00	29.24
ATOM	9765	O	SER	5223	27.839	16.435	70.796	1.00	30.12
ATOM	9766	N	ASP	5224	29.826	15.473	70.462	1.00	29.62
ATOM	9767	CA	ASP	5224	30.210	15.634	71.855	1.00	30.12
ATOM	9768	CB	ASP	5224	31.185	14.529	72.303	1.00	30.29
ATOM	9769	CG	ASP	5224	30.507	13.161	72.477	1.00	30.34
ATOM	9770	OD1	ASP	5224	29.369	13.109	72.985	1.00	28.80
ATOM	9771	OD2	ASP	5224	31.126	12.136	72.120	1.00	29.23
ATOM	9772	C	ASP	5224	30.880	16.990	72.028	1.00	30.64
ATOM	9773	O	ASP	5224	31.113	17.429	73.151	1.00	31.26
ATOM	9774	N	LYS	5225	31.199	17.643	70.910	1.00	31.04
ATOM	9775	CA	LYS	5225	31.851	18.952	70.927	1.00	31.07
ATOM	9776	CB	LYS	5225	31.881	19.565	69.522	1.00	32.09
ATOM	9777	CG	LYS	5225	32.813	18.925	68.511	1.00	34.06
ATOM	9778	CD	LYS	5225	32.731	19.668	67.180	1.00	35.70
ATOM	9779	CE	LYS	5225	33.875	19.281	66.233	1.00	38.01
ATOM	9780	NZ	LYS	5225	34.054	20.269	65.105	1.00	39.20
ATOM	9781	C	LYS	5225	31.080	19.908	71.809	1.00	31.19
ATOM	9782	O	LYS	5225	29.855	19.953	71.739	1.00	30.95
ATOM	9783	N	GLY	5226	31.788	20.692	72.617	1.00	31.49
ATOM	9784	CA	GLY	5226	31.109	21.654	73.464	1.00	31.39
ATOM	9785	C	GLY	5226	31.851	22.016	74.730	1.00	32.44
ATOM	9786	O	GLY	5226	32.995	21.595	74.942	1.00	31.89
ATOM	9787	N	ASN	5227	31.200	22.818	75.570	1.00	32.87
ATOM	9788	CA	ASN	5227	31.789	23.237	76.836	1.00	33.42
ATOM	9789	CB	ASN	5227	31.465	24.704	77.144	1.00	34.21
ATOM	9790	CG	ASN	5227	32.238	25.676	76.268	1.00	35.06

ATOM	9791	OD1	ASN	5227	33.459	25.578	76.130	1.00	36.16
ATOM	9792	ND2	ASN	5227	31.530	26.632	75.686	1.00	35.29
ATOM	9793	C	ASN	5227	31.224	22.375	77.950	1.00	33.45
ATOM	9794	O	ASN	5227	30.013	22.187	78.054	1.00	34.52
ATOM	9795	N	TYR	5228	32.098	21.847	78.786	1.00	32.68
ATOM	9796	CA	TYR	5228	31.646	21.028	79.890	1.00	32.31
ATOM	9797	CB	TYR	5228	32.274	19.636	79.821	1.00	31.70
ATOM	9798	CG	TYR	5228	31.761	18.813	78.660	1.00	31.87
ATOM	9799	CD1	TYR	5228	32.273	18.983	77.370	1.00	31.67
ATOM	9800	CE1	TYR	5228	31.746	18.275	76.279	1.00	31.95
ATOM	9801	CD2	TYR	5228	30.714	17.911	78.837	1.00	32.05
ATOM	9802	CE2	TYR	5228	30.177	17.198	77.757	1.00	32.89
ATOM	9803	CZ	TYR	5228	30.695	17.385	76.482	1.00	32.38
ATOM	9804	OH	TYR	5228	30.148	16.692	75.424	1.00	31.48
ATOM	9805	C	TYR	5228	32.020	21.730	81.178	1.00	32.87
ATOM	9806	O	TYR	5228	33.194	22.022	81.426	1.00	31.99
ATOM	9807	N	THR	5229	31.003	22.009	81.986	1.00	33.54
ATOM	9808	CA	THR	5229	31.189	22.706	83.245	1.00	34.63
ATOM	9809	CB	THR	5229	30.289	23.928	83.320	1.00	33.92
ATOM	9810	OG1	THR	5229	30.515	24.758	82.172	1.00	31.85
ATOM	9811	CG2	THR	5229	30.563	24.697	84.611	1.00	32.94
ATOM	9812	C	THR	5229	30.865	21.840	84.438	1.00	35.98
ATOM	9813	O	THR	5229	29.820	21.198	84.486	1.00	37.53
ATOM	9814	N	CYS	5230	31.768	21.830	85.404	1.00	37.16
ATOM	9815	CA	CYS	5230	31.573	21.065	86.620	1.00	39.00
ATOM	9816	CB	CYS	5230	32.889	20.460	87.066	1.00	39.17
ATOM	9817	SG	CYS	5230	34.010	21.769	87.572	1.00	41.41
ATOM	9818	C	CYS	5230	31.133	22.073	87.677	1.00	39.83
ATOM	9819	O	CYS	5230	31.674	23.178	87.748	1.00	39.23
ATOM	9820	N	ILE	5231	30.156	21.691	88.487	1.00	40.94
ATOM	9821	CA	ILE	5231	29.673	22.560	89.548	1.00	42.59
ATOM	9822	CB	ILE	5231	28.207	22.965	89.307	1.00	42.87
ATOM	9823	CG2	ILE	5231	27.650	23.662	90.535	1.00	43.49
ATOM	9824	CG1	ILE	5231	28.122	23.877	88.078	1.00	42.58
ATOM	9825	CD1	ILE	5231	26.714	24.304	87.729	1.00	41.47
ATOM	9826	C	ILE	5231	29.807	21.846	90.891	1.00	43.55
ATOM	9827	O	ILE	5231	29.102	20.876	91.164	1.00	43.37
ATOM	9828	N	VAL	5232	30.738	22.325	91.711	1.00	45.09
ATOM	9829	CA	VAL	5232	30.983	21.740	93.017	1.00	46.89
ATOM	9830	CB	VAL	5232	32.485	21.566	93.262	1.00	47.25
ATOM	9831	CG1	VAL	5232	32.723	21.020	94.655	1.00	47.60
ATOM	9832	CG2	VAL	5232	33.069	20.628	92.216	1.00	46.98
ATOM	9833	C	VAL	5232	30.400	22.663	94.071	1.00	48.40
ATOM	9834	O	VAL	5232	30.770	23.836	94.155	1.00	48.63
ATOM	9835	N	GLU	5233	29.484	22.141	94.878	1.00	50.11
ATOM	9836	CA	GLU	5233	28.869	22.974	95.900	1.00	51.75
ATOM	9837	CB	GLU	5233	27.699	23.766	95.285	1.00	53.36
ATOM	9838	CG	GLU	5233	26.496	22.928	94.822	1.00	55.76
ATOM	9839	CD	GLU	5233	25.434	23.753	94.065	1.00	58.15
ATOM	9840	OE1	GLU	5233	24.285	23.269	93.914	1.00	59.04
ATOM	9841	OE2	GLU	5233	25.745	24.882	93.607	1.00	58.84
ATOM	9842	C	GLU	5233	28.391	22.244	97.150	1.00	51.95
ATOM	9843	O	GLU	5233	28.168	21.031	97.145	1.00	51.51
ATOM	9844	N	ASN	5234	28.269	23.017	98.226	1.00	52.56
ATOM	9845	CA	ASN	5234	27.769	22.548	99.515	1.00	53.19
ATOM	9846	CB	ASN	5234	28.907	22.081	100.456	1.00	52.38
ATOM	9847	CG	ASN	5234	29.828	23.210	100.905	1.00	51.98
ATOM	9848	OD1	ASN	5234	29.583	24.388	100.630	1.00	51.89
ATOM	9849	ND2	ASN	5234	30.897	22.848	101.611	1.00	50.59
ATOM	9850	C	ASN	5234	27.015	23.740	100.107	1.00	54.28
ATOM	9851	O	ASN	5234	26.960	24.812	99.496	1.00	54.27
ATOM	9852	N	GLU	5235	26.432	23.562	101.284	1.00	55.32

ATOM	9853	CA	GLU	5235	25.675	24.633	101.913	1.00	56.54
ATOM	9854	CB	GLU	5235	25.193	24.179	103.295	1.00	58.33
ATOM	9855	CG	GLU	5235	24.547	25.285	104.111	1.00	61.05
ATOM	9856	CD	GLU	5235	24.261	24.855	105.531	1.00	62.98
ATOM	9857	OE1	GLU	5235	25.064	24.050	106.059	1.00	63.62
ATOM	9858	OE2	GLU	5235	23.253	25.327	106.118	1.00	63.53
ATOM	9859	C	GLU	5235	26.422	25.967	102.040	1.00	56.45
ATOM	9860	O	GLU	5235	25.797	27.028	102.058	1.00	56.01
ATOM	9861	N	TYR	5236	27.750	25.923	102.107	1.00	56.65
ATOM	9862	CA	TYR	5236	28.529	27.151	102.271	1.00	56.71
ATOM	9863	CB	TYR	5236	29.642	26.927	103.287	1.00	58.12
ATOM	9864	CG	TYR	5236	29.114	26.299	104.539	1.00	60.43
ATOM	9865	CD1	TYR	5236	29.152	24.912	104.712	1.00	61.38
ATOM	9866	CE1	TYR	5236	28.580	24.315	105.829	1.00	62.15
ATOM	9867	CD2	TYR	5236	28.491	27.076	105.520	1.00	61.21
ATOM	9868	CE2	TYR	5236	27.914	26.491	106.640	1.00	62.02
ATOM	9869	CZ	TYR	5236	27.961	25.110	106.787	1.00	62.48
ATOM	9870	OH	TYR	5236	27.378	24.519	107.883	1.00	63.37
ATOM	9871	C	TYR	5236	29.119	27.797	101.031	1.00	56.17
ATOM	9872	O	TYR	5236	29.779	28.830	101.135	1.00	56.53
ATOM	9873	N	GLY	5237	28.895	27.216	99.860	1.00	55.21
ATOM	9874	CA	GLY	5237	29.447	27.828	98.666	1.00	53.83
ATOM	9875	C	GLY	5237	29.490	26.927	97.454	1.00	52.95
ATOM	9876	O	GLY	5237	29.319	25.707	97.553	1.00	53.09
ATOM	9877	N	SER	5238	29.739	27.538	96.301	1.00	51.67
ATOM	9878	CA	SER	5238	29.790	26.804	95.048	1.00	50.10
ATOM	9879	CB	SER	5238	28.419	26.885	94.362	1.00	49.82
ATOM	9880	OG	SER	5238	28.424	26.225	93.109	1.00	50.06
ATOM	9881	C	SER	5238	30.869	27.347	94.116	1.00	48.81
ATOM	9882	O	SER	5238	31.006	28.556	93.944	1.00	48.57
ATOM	9883	N	ILE	5239	31.626	26.435	93.520	1.00	47.16
ATOM	9884	CA	ILE	5239	32.687	26.781	92.593	1.00	45.37
ATOM	9885	CB	ILE	5239	34.052	26.359	93.169	1.00	45.09
ATOM	9886	CG2	ILE	5239	34.340	27.142	94.440	1.00	45.08
ATOM	9887	CG1	ILE	5239	34.042	24.866	93.497	1.00	44.82
ATOM	9888	CD1	ILE	5239	35.295	24.380	94.191	1.00	44.96
ATOM	9889	C	ILE	5239	32.420	26.039	91.284	1.00	44.96
ATOM	9890	O	ILE	5239	31.582	25.127	91.234	1.00	44.71
ATOM	9891	N	ASN	5240	33.124	26.425	90.227	1.00	44.15
ATOM	9892	CA	ASN	5240	32.937	25.778	88.943	1.00	43.48
ATOM	9893	CB	ASN	5240	31.647	26.269	88.295	1.00	43.32
ATOM	9894	CG	ASN	5240	31.650	27.753	88.073	1.00	43.34
ATOM	9895	OD1	ASN	5240	32.595	28.307	87.508	1.00	43.80
ATOM	9896	ND2	ASN	5240	30.592	28.415	88.512	1.00	43.66
ATOM	9897	C	ASN	5240	34.103	26.023	88.002	1.00	43.08
ATOM	9898	O	ASN	5240	34.902	26.935	88.205	1.00	43.02
ATOM	9899	N	HIS	5241	34.183	25.199	86.964	1.00	42.56
ATOM	9900	CA	HIS	5241	35.238	25.306	85.981	1.00	41.61
ATOM	9901	CB	HIS	5241	36.431	24.479	86.435	1.00	42.31
ATOM	9902	CG	HIS	5241	37.659	24.696	85.614	1.00	43.44
ATOM	9903	CD2	HIS	5241	38.404	23.836	84.882	1.00	43.90
ATOM	9904	ND1	HIS	5241	38.267	25.926	85.498	1.00	44.30
ATOM	9905	CE1	HIS	5241	39.336	25.815	84.730	1.00	45.15
ATOM	9906	NE2	HIS	5241	39.442	24.556	84.343	1.00	44.67
ATOM	9907	C	HIS	5241	34.673	24.767	84.679	1.00	41.15
ATOM	9908	O	HIS	5241	33.808	23.888	84.689	1.00	41.21
ATOM	9909	N	THR	5242	35.152	25.289	83.558	1.00	40.25
ATOM	9910	CA	THR	5242	34.657	24.846	82.265	1.00	38.75
ATOM	9911	CB	THR	5242	33.848	25.950	81.599	1.00	38.23
ATOM	9912	OG1	THR	5242	32.710	26.242	82.409	1.00	37.99
ATOM	9913	CG2	THR	5242	33.393	25.519	80.211	1.00	38.76
ATOM	9914	C	THR	5242	35.760	24.415	81.313	1.00	37.77

ATOM	9915	O	THR	5242	36.752	25.117	81.133	1.00	38.85
ATOM	9916	N	TYR	5243	35.590	23.247	80.712	1.00	36.67
ATOM	9917	CA	TYR	5243	36.566	22.744	79.755	1.00	35.67
ATOM	9918	CB	TYR	5243	36.986	21.304	80.073	1.00	34.02
ATOM	9919	CG	TYR	5243	37.654	21.122	81.415	1.00	33.64
ATOM	9920	CD1	TYR	5243	36.945	20.625	82.510	1.00	33.18
ATOM	9921	CE1	TYR	5243	37.559	20.449	83.742	1.00	32.45
ATOM	9922	CD2	TYR	5243	39.001	21.440	81.593	1.00	33.37
ATOM	9923	CE2	TYR	5243	39.623	21.266	82.820	1.00	32.30
ATOM	9924	CZ	TYR	5243	38.897	20.772	83.890	1.00	32.53
ATOM	9925	OH	TYR	5243	39.513	20.612	85.108	1.00	32.64
ATOM	9926	C	TYR	5243	35.922	22.768	78.382	1.00	35.58
ATOM	9927	O	TYR	5243	34.697	22.651	78.255	1.00	36.05
ATOM	9928	N	GLN	5244	36.733	22.942	77.348	1.00	35.13
ATOM	9929	CA	GLN	5244	36.179	22.939	76.010	1.00	34.91
ATOM	9930	CB	GLN	5244	36.670	24.133	75.189	1.00	34.76
ATOM	9931	CG	GLN	5244	35.682	24.504	74.079	1.00	37.13
ATOM	9932	CD	GLN	5244	36.320	25.245	72.920	1.00	37.92
ATOM	9933	OE1	GLN	5244	37.080	26.194	73.115	1.00	38.64
ATOM	9934	NE2	GLN	5244	36.006	24.814	71.699	1.00	37.38
ATOM	9935	C	GLN	5244	36.612	21.650	75.345	1.00	33.54
ATOM	9936	O	GLN	5244	37.781	21.293	75.388	1.00	33.39
ATOM	9937	N	LEU	5245	35.663	20.934	74.757	1.00	33.18
ATOM	9938	CA	LEU	5245	35.992	19.693	74.070	1.00	32.06
ATOM	9939	CB	LEU	5245	35.112	18.537	74.540	1.00	31.09
ATOM	9940	CG	LEU	5245	35.248	17.263	73.688	1.00	31.16
ATOM	9941	CD1	LEU	5245	36.670	16.738	73.734	1.00	31.52
ATOM	9942	CD2	LEU	5245	34.289	16.204	74.198	1.00	30.73
ATOM	9943	C	LEU	5245	35.831	19.848	72.572	1.00	31.49
ATOM	9944	O	LEU	5245	34.773	20.239	72.081	1.00	30.84
ATOM	9945	N	ASP	5246	36.901	19.557	71.846	1.00	31.94
ATOM	9946	CA	ASP	5246	36.853	19.622	70.395	1.00	32.18
ATOM	9947	CB	ASP	5246	37.747	20.733	69.835	1.00	33.12
ATOM	9948	CG	ASP	5246	37.449	21.038	68.365	1.00	34.48
ATOM	9949	OD1	ASP	5246	38.108	21.928	67.792	1.00	34.54
ATOM	9950	OD2	ASP	5246	36.552	20.393	67.769	1.00	35.19
ATOM	9951	C	ASP	5246	37.294	18.271	69.859	1.00	31.81
ATOM	9952	O	ASP	5246	38.341	17.742	70.238	1.00	31.82
ATOM	9953	N	VAL	5247	36.460	17.714	68.991	1.00	31.54
ATOM	9954	CA	VAL	5247	36.704	16.424	68.388	1.00	31.54
ATOM	9955	CB	VAL	5247	35.459	15.557	68.508	1.00	31.34
ATOM	9956	CG1	VAL	5247	35.629	14.266	67.721	1.00	31.07
ATOM	9957	CG2	VAL	5247	35.198	15.278	69.965	1.00	31.19
ATOM	9958	C	VAL	5247	37.017	16.631	66.932	1.00	32.27
ATOM	9959	O	VAL	5247	36.239	17.248	66.217	1.00	32.16
ATOM	9960	N	VAL	5248	38.152	16.110	66.486	1.00	33.49
ATOM	9961	CA	VAL	5248	38.532	16.286	65.098	1.00	33.39
ATOM	9962	CB	VAL	5248	39.900	16.985	65.007	1.00	33.39
ATOM	9963	CG1	VAL	5248	40.205	17.355	63.575	1.00	33.94
ATOM	9964	CG2	VAL	5248	39.880	18.240	65.878	1.00	32.82
ATOM	9965	C	VAL	5248	38.499	14.996	64.308	1.00	33.46
ATOM	9966	O	VAL	5248	39.070	13.968	64.697	1.00	34.44
ATOM	9967	N	GLU	5249	37.737	15.099	63.220	1.00	33.71
ATOM	9968	CA	GLU	5249	37.512	14.043	62.239	1.00	33.52
ATOM	9969	CB	GLU	5249	36.116	14.191	61.630	1.00	34.17
ATOM	9970	CG	GLU	5249	34.978	13.735	62.520	1.00	36.62
ATOM	9971	CD	GLU	5249	33.621	13.839	61.829	1.00	38.82
ATOM	9972	OE1	GLU	5249	33.014	14.941	61.839	1.00	39.53
ATOM	9973	OE2	GLU	5249	33.165	12.818	61.262	1.00	38.96
ATOM	9974	C	GLU	5249	38.551	14.164	61.128	1.00	32.43
ATOM	9975	O	GLU	5249	38.834	15.253	60.660	1.00	32.12
ATOM	9976	N	ARG	5250	39.113	13.044	60.702	1.00	32.13

ATOM	9977	CA	ARG	5250	40.119	13.060	59.649	1.00	31.75
ATOM	9978	CB	ARG	5250	41.381	12.330	60.131	1.00	30.63
ATOM	9979	CG	ARG	5250	41.941	12.810	61.484	1.00	30.28
ATOM	9980	CD	ARG	5250	42.137	14.326	61.557	1.00	28.58
ATOM	9981	NE	ARG	5250	42.969	14.828	60.468	1.00	28.92
ATOM	9982	CZ	ARG	5250	44.298	14.827	60.473	1.00	28.27
ATOM	9983	NH1	ARG	5250	44.966	14.356	61.518	1.00	29.13
ATOM	9984	NH2	ARG	5250	44.955	15.290	59.431	1.00	25.77
ATOM	9985	C	ARG	5250	39.577	12.375	58.390	1.00	31.87
ATOM	9986	O	ARG	5250	38.610	11.612	58.463	1.00	31.95
ATOM	9987	N	SER	5251	40.180	12.670	57.240	1.00	31.52
ATOM	9988	CA	SER	5251	39.785	12.042	55.977	1.00	31.27
ATOM	9989	CB	SER	5251	39.200	13.055	55.000	1.00	32.27
ATOM	9990	OG	SER	5251	38.123	13.742	55.592	1.00	33.93
ATOM	9991	C	SER	5251	41.050	11.457	55.389	1.00	30.49
ATOM	9992	O	SER	5251	41.699	12.071	54.548	1.00	30.34
ATOM	9993	N	PRO	5252	41.412	10.248	55.829	1.00	30.39
ATOM	9994	CD	PRO	5252	40.629	9.390	56.736	1.00	30.25
ATOM	9995	CA	PRO	5252	42.607	9.551	55.372	1.00	30.54
ATOM	9996	CB	PRO	5252	42.780	8.476	56.432	1.00	30.30
ATOM	9997	CG	PRO	5252	41.388	8.075	56.684	1.00	30.05
ATOM	9998	C	PRO	5252	42.458	8.978	53.970	1.00	30.72
ATOM	9999	O	PRO	5252	42.481	7.767	53.785	1.00	30.53
ATOM	10000	N	HIS	5253	42.300	9.852	52.984	1.00	31.71
ATOM	10001	CA	HIS	5253	42.165	9.404	51.605	1.00	32.43
ATOM	10002	CB	HIS	5253	40.686	9.258	51.209	1.00	33.92
ATOM	10003	CG	HIS	5253	39.870	10.496	51.423	1.00	37.39
ATOM	10004	CD2	HIS	5253	38.684	10.684	52.052	1.00	38.35
ATOM	10005	ND1	HIS	5253	40.239	11.732	50.928	1.00	38.54
ATOM	10006	CE1	HIS	5253	39.315	12.625	51.240	1.00	39.02
ATOM	10007	NE2	HIS	5253	38.360	12.016	51.924	1.00	38.92
ATOM	10008	C	HIS	5253	42.872	10.354	50.647	1.00	31.48
ATOM	10009	O	HIS	5253	43.209	11.487	51.011	1.00	31.12
ATOM	10010	N	ARG	5254	43.111	9.880	49.431	1.00	29.92
ATOM	10011	CA	ARG	5254	43.764	10.694	48.425	1.00	29.03
ATOM	10012	CB	ARG	5254	43.978	9.891	47.143	1.00	30.01
ATOM	10013	CG	ARG	5254	42.706	9.380	46.496	1.00	30.64
ATOM	10014	CD	ARG	5254	43.050	8.564	45.263	1.00	32.33
ATOM	10015	NE	ARG	5254	41.848	8.049	44.616	1.00	35.15
ATOM	10016	CZ	ARG	5254	41.552	8.215	43.328	1.00	35.61
ATOM	10017	NH1	ARG	5254	42.371	8.887	42.529	1.00	35.75
ATOM	10018	NH2	ARG	5254	40.429	7.710	42.837	1.00	36.88
ATOM	10019	C	ARG	5254	42.889	11.915	48.148	1.00	27.73
ATOM	10020	O	ARG	5254	41.713	11.939	48.513	1.00	27.41
ATOM	10021	N	PRO	5255	43.449	12.941	47.500	1.00	26.38
ATOM	10022	CD	PRO	5255	44.814	13.081	46.965	1.00	25.27
ATOM	10023	CA	PRO	5255	42.660	14.145	47.210	1.00	25.76
ATOM	10024	CB	PRO	5255	43.653	15.052	46.469	1.00	24.66
ATOM	10025	CG	PRO	5255	44.986	14.574	46.928	1.00	23.72
ATOM	10026	C	PRO	5255	41.437	13.840	46.355	1.00	25.19
ATOM	10027	O	PRO	5255	41.445	12.910	45.558	1.00	25.22
ATOM	10028	N	ILE	5256	40.387	14.630	46.526	1.00	24.93
ATOM	10029	CA	ILE	5256	39.179	14.446	45.751	1.00	24.43
ATOM	10030	CB	ILE	5256	37.996	14.101	46.658	1.00	24.20
ATOM	10031	CG2	ILE	5256	36.715	13.991	45.824	1.00	23.19
ATOM	10032	CG1	ILE	5256	38.306	12.794	47.394	1.00	23.34
ATOM	10033	CD1	ILE	5256	37.154	12.220	48.158	1.00	24.26
ATOM	10034	C	ILE	5256	38.905	15.712	44.965	1.00	24.81
ATOM	10035	O	ILE	5256	38.896	16.807	45.519	1.00	24.92
ATOM	10036	N	LEU	5257	38.707	15.557	43.662	1.00	25.21
ATOM	10037	CA	LEU	5257	38.444	16.693	42.784	1.00	25.92
ATOM	10038	CB	LEU	5257	39.205	16.520	41.466	1.00	24.96

ATOM	10039	CG	LEU	5257	40.683	16.091	41.563	1.00	25.78
ATOM	10040	CD1	LEU	5257	41.312	16.140	40.187	1.00	26.13
ATOM	10041	CD2	LEU	5257	41.447	16.977	42.506	1.00	23.35
ATOM	10042	C	LEU	5257	36.945	16.802	42.509	1.00	27.08
ATOM	10043	O	LEU	5257	36.280	15.794	42.272	1.00	26.56
ATOM	10044	N	GLN	5258	36.415	18.020	42.546	1.00	28.00
ATOM	10045	CA	GLN	5258	34.992	18.263	42.310	1.00	29.50
ATOM	10046	CB	GLN	5258	34.720	19.772	42.453	1.00	30.10
ATOM	10047	CG	GLN	5258	33.244	20.209	42.628	1.00	32.78
ATOM	10048	CD	GLN	5258	33.089	21.748	42.862	1.00	34.25
ATOM	10049	OE1	GLN	5258	33.646	22.320	43.820	1.00	34.82
ATOM	10050	NE2	GLN	5258	32.328	22.401	41.992	1.00	33.43
ATOM	10051	C	GLN	5258	34.600	17.766	40.910	1.00	29.74
ATOM	10052	O	GLN	5258	35.183	18.183	39.912	1.00	30.28
ATOM	10053	N	ALA	5259	33.627	16.863	40.848	1.00	29.19
ATOM	10054	CA	ALA	5259	33.164	16.335	39.577	1.00	28.90
ATOM	10055	CB	ALA	5259	31.938	15.466	39.805	1.00	28.95
ATOM	10056	C	ALA	5259	32.831	17.482	38.619	1.00	29.09
ATOM	10057	O	ALA	5259	32.288	18.509	39.034	1.00	29.26
ATOM	10058	N	GLY	5260	33.166	17.314	37.342	1.00	28.87
ATOM	10059	CA	GLY	5260	32.866	18.350	36.364	1.00	29.36
ATOM	10060	C	GLY	5260	33.943	19.385	36.072	1.00	29.16
ATOM	10061	O	GLY	5260	33.856	20.088	35.073	1.00	29.08
ATOM	10062	N	LEU	5261	34.955	19.487	36.924	1.00	29.15
ATOM	10063	CA	LEU	5261	36.011	20.463	36.728	1.00	28.81
ATOM	10064	CB	LEU	5261	35.997	21.483	37.873	1.00	27.44
ATOM	10065	CG	LEU	5261	34.648	22.175	38.138	1.00	27.66
ATOM	10066	CD1	LEU	5261	34.777	23.147	39.310	1.00	25.56
ATOM	10067	CD2	LEU	5261	34.171	22.907	36.886	1.00	25.80
ATOM	10068	C	LEU	5261	37.388	19.816	36.637	1.00	29.09
ATOM	10069	O	LEU	5261	37.708	18.914	37.403	1.00	29.60
ATOM	10070	N	PRO	5262	38.227	20.273	35.693	1.00	29.52
ATOM	10071	CD	PRO	5262	39.586	19.733	35.492	1.00	29.66
ATOM	10072	CA	PRO	5262	37.947	21.347	34.731	1.00	29.39
ATOM	10073	CB	PRO	5262	39.324	21.659	34.155	1.00	28.77
ATOM	10074	CG	PRO	5262	39.972	20.312	34.134	1.00	29.76
ATOM	10075	C	PRO	5262	36.956	20.880	33.679	1.00	29.37
ATOM	10076	O	PRO	5262	36.768	19.686	33.489	1.00	30.56
ATOM	10077	N	ALA	5263	36.326	21.825	32.994	1.00	30.06
ATOM	10078	CA	ALA	5263	35.333	21.499	31.978	1.00	30.27
ATOM	10079	CB	ALA	5263	34.079	22.312	32.230	1.00	28.22
ATOM	10080	C	ALA	5263	35.829	21.747	30.563	1.00	30.58
ATOM	10081	O	ALA	5263	36.667	22.612	30.342	1.00	30.67
ATOM	10082	N	ASN	5264	35.309	20.979	29.608	1.00	32.00
ATOM	10083	CA	ASN	5264	35.679	21.143	28.205	1.00	33.24
ATOM	10084	CB	ASN	5264	34.975	20.096	27.343	1.00	31.59
ATOM	10085	CG	ASN	5264	35.388	18.688	27.696	1.00	31.51
ATOM	10086	OD1	ASN	5264	36.538	18.438	28.040	1.00	31.48
ATOM	10087	ND2	ASN	5264	34.457	17.755	27.597	1.00	31.40
ATOM	10088	C	ASN	5264	35.286	22.546	27.737	1.00	34.46
ATOM	10089	O	ASN	5264	34.253	23.076	28.136	1.00	34.91
ATOM	10090	N	LYS	5265	36.112	23.151	26.901	1.00	35.80
ATOM	10091	CA	LYS	5265	35.815	24.484	26.418	1.00	37.56
ATOM	10092	CB	LYS	5265	36.595	25.527	27.224	1.00	38.04
ATOM	10093	CG	LYS	5265	36.184	25.596	28.686	1.00	40.06
ATOM	10094	CD	LYS	5265	37.040	26.577	29.474	1.00	41.54
ATOM	10095	CE	LYS	5265	36.533	26.784	30.908	1.00	41.47
ATOM	10096	NZ	LYS	5265	36.742	25.618	31.819	1.00	43.24
ATOM	10097	C	LYS	5265	36.113	24.637	24.936	1.00	38.23
ATOM	10098	O	LYS	5265	37.107	24.119	24.428	1.00	38.73
ATOM	10099	N	THR	5266	35.216	25.335	24.251	1.00	38.57
ATOM	10100	CA	THR	5266	35.352	25.611	22.834	1.00	38.83

ATOM	10101	CB	THR	5266	34.115	25.164	22.051	1.00	38.15
ATOM	10102	OG1	THR	5266	33.997	23.744	22.110	1.00	38.74
ATOM	10103	CG2	THR	5266	34.224	25.590	20.604	1.00	38.24
ATOM	10104	C	THR	5266	35.439	27.123	22.747	1.00	39.24
ATOM	10105	O	THR	5266	34.491	27.811	23.103	1.00	38.97
ATOM	10106	N	VAL	5267	36.568	27.649	22.287	1.00	39.70
ATOM	10107	CA	VAL	5267	36.717	29.092	22.192	1.00	40.05
ATOM	10108	CB	VAL	5267	37.634	29.625	23.306	1.00	39.06
ATOM	10109	CG1	VAL	5267	37.064	29.262	24.649	1.00	38.38
ATOM	10110	CG2	VAL	5267	39.027	29.052	23.153	1.00	38.44
ATOM	10111	C	VAL	5267	37.283	29.545	20.863	1.00	40.88
ATOM	10112	O	VAL	5267	37.903	28.770	20.136	1.00	40.45
ATOM	10113	N	ALA	5268	37.063	30.818	20.557	1.00	42.63
ATOM	10114	CA	ALA	5268	37.555	31.407	19.319	1.00	44.27
ATOM	10115	CB	ALA	5268	36.768	32.659	18.993	1.00	44.43
ATOM	10116	C	ALA	5268	39.028	31.744	19.476	1.00	45.10
ATOM	10117	O	ALA	5268	39.498	32.053	20.575	1.00	45.41
ATOM	10118	N	LEU	5269	39.760	31.669	18.375	1.00	45.93
ATOM	10119	CA	LEU	5269	41.180	31.975	18.390	1.00	46.94
ATOM	10120	CB	LEU	5269	41.694	32.002	16.953	1.00	47.16
ATOM	10121	CG	LEU	5269	42.946	31.202	16.598	1.00	47.79
ATOM	10122	CD1	LEU	5269	43.315	31.528	15.157	1.00	47.37
ATOM	10123	CD2	LEU	5269	44.102	31.545	17.543	1.00	47.56
ATOM	10124	C	LEU	5269	41.403	33.344	19.049	1.00	47.65
ATOM	10125	O	LEU	5269	40.623	34.280	18.836	1.00	47.78
ATOM	10126	N	GLY	5270	42.456	33.455	19.856	1.00	47.85
ATOM	10127	CA	GLY	5270	42.749	34.718	20.510	1.00	48.22
ATOM	10128	C	GLY	5270	41.959	35.004	21.772	1.00	48.24
ATOM	10129	O	GLY	5270	42.139	36.055	22.395	1.00	48.44
ATOM	10130	N	SER	5271	41.084	34.082	22.154	1.00	47.74
ATOM	10131	CA	SER	5271	40.289	34.262	23.359	1.00	47.60
ATOM	10132	CB	SER	5271	39.096	33.317	23.337	1.00	47.37
ATOM	10133	OG	SER	5271	38.342	33.505	22.155	1.00	48.08
ATOM	10134	C	SER	5271	41.127	33.988	24.602	1.00	47.36
ATOM	10135	O	SER	5271	42.253	33.492	24.515	1.00	47.33
ATOM	10136	N	ASN	5272	40.576	34.331	25.757	1.00	46.83
ATOM	10137	CA	ASN	5272	41.247	34.080	27.013	1.00	46.38
ATOM	10138	CB	ASN	5272	41.318	35.359	27.833	1.00	46.54
ATOM	10139	CG	ASN	5272	42.106	36.450	27.125	1.00	47.02
ATOM	10140	OD1	ASN	5272	43.240	36.232	26.691	1.00	47.08
ATOM	10141	ND2	ASN	5272	41.507	37.628	26.999	1.00	46.67
ATOM	10142	C	ASN	5272	40.381	33.024	27.672	1.00	46.10
ATOM	10143	O	ASN	5272	39.157	33.086	27.601	1.00	45.92
ATOM	10144	N	VAL	5273	41.010	32.033	28.285	1.00	45.60
ATOM	10145	CA	VAL	5273	40.256	30.960	28.906	1.00	44.42
ATOM	10146	CB	VAL	5273	40.208	29.732	27.965	1.00	44.17
ATOM	10147	CG1	VAL	5273	41.607	29.380	27.513	1.00	43.76
ATOM	10148	CG2	VAL	5273	39.583	28.548	28.673	1.00	44.17
ATOM	10149	C	VAL	5273	40.846	30.551	30.240	1.00	43.72
ATOM	10150	O	VAL	5273	42.060	30.616	30.442	1.00	43.69
ATOM	10151	N	GLU	5274	39.979	30.139	31.155	1.00	42.65
ATOM	10152	CA	GLU	5274	40.438	29.706	32.456	1.00	42.01
ATOM	10153	CB	GLU	5274	40.140	30.755	33.521	1.00	42.19
ATOM	10154	CG	GLU	5274	38.697	30.839	33.941	1.00	42.83
ATOM	10155	CD	GLU	5274	38.542	31.556	35.264	1.00	43.94
ATOM	10156	OE1	GLU	5274	39.049	32.694	35.383	1.00	44.14
ATOM	10157	OE2	GLU	5274	37.919	30.982	36.185	1.00	44.10
ATOM	10158	C	GLU	5274	39.819	28.385	32.875	1.00	41.03
ATOM	10159	O	GLU	5274	38.599	28.236	32.927	1.00	40.80
ATOM	10160	N	PHE	5275	40.678	27.419	33.158	1.00	39.45
ATOM	10161	CA	PHE	5275	40.223	26.121	33.610	1.00	37.92
ATOM	10162	CB	PHE	5275	41.163	25.019	33.123	1.00	36.59

ATOM	10163	CG	PHE	5275	40.998	24.667	31.666	1.00	35.45
ATOM	10164	CD1	PHE	5275	39.869	23.982	31.225	1.00	34.73
ATOM	10165	CD2	PHE	5275	41.986	24.991	30.741	1.00	34.12
ATOM	10166	CE1	PHE	5275	39.728	23.621	29.891	1.00	34.58
ATOM	10167	CE2	PHE	5275	41.855	24.637	29.405	1.00	34.27
ATOM	10168	CZ	PHE	5275	40.726	23.949	28.975	1.00	34.30
ATOM	10169	C	PHE	5275	40.215	26.157	35.130	1.00	37.71
ATOM	10170	O	PHE	5275	41.066	26.790	35.751	1.00	36.89
ATOM	10171	N	MSE	5276	39.243	25.485	35.729	1.00	37.93
ATOM	10172	CA	MSE	5276	39.150	25.453	37.175	1.00	38.01
ATOM	10173	CB	MSE	5276	37.818	26.030	37.646	1.00	39.20
ATOM	10174	CG	MSE	5276	37.762	27.553	37.711	1.00	41.11
ATOM	10175	SE	MSE	5276	36.103	28.108	38.178	1.00	44.10
ATOM	10176	CE	MSE	5276	36.170	27.905	39.937	1.00	41.39
ATOM	10177	C	MSE	5276	39.290	24.052	37.711	1.00	37.40
ATOM	10178	O	MSE	5276	39.121	23.076	36.986	1.00	36.63
ATOM	10179	N	CYS	5277	39.607	23.970	38.996	1.00	37.24
ATOM	10180	CA	CYS	5277	39.755	22.698	39.671	1.00	37.32
ATOM	10181	CB	CYS	5277	41.119	22.101	39.400	1.00	38.15
ATOM	10182	SG	CYS	5277	41.161	20.398	39.934	1.00	42.84
ATOM	10183	C	CYS	5277	39.580	22.844	41.173	1.00	36.48
ATOM	10184	O	CYS	5277	40.347	23.541	41.824	1.00	36.62
ATOM	10185	N	LYS	5278	38.574	22.173	41.718	1.00	35.82
ATOM	10186	CA	LYS	5278	38.300	22.230	43.145	1.00	34.78
ATOM	10187	CB	LYS	5278	36.806	22.463	43.378	1.00	35.49
ATOM	10188	CG	LYS	5278	36.377	23.881	43.005	1.00	36.59
ATOM	10189	CD	LYS	5278	37.176	24.876	43.827	1.00	38.50
ATOM	10190	CE	LYS	5278	36.787	26.317	43.556	1.00	39.81
ATOM	10191	NZ	LYS	5278	37.376	27.213	44.608	1.00	40.66
ATOM	10192	C	LYS	5278	38.784	20.961	43.834	1.00	33.20
ATOM	10193	O	LYS	5278	38.314	19.856	43.565	1.00	33.22
ATOM	10194	N	VAL	5279	39.737	21.136	44.734	1.00	30.93
ATOM	10195	CA	VAL	5279	40.320	20.010	45.430	1.00	28.74
ATOM	10196	CB	VAL	5279	41.847	20.014	45.280	1.00	29.11
ATOM	10197	CG1	VAL	5279	42.457	18.860	46.035	1.00	26.45
ATOM	10198	CG2	VAL	5279	42.210	19.951	43.818	1.00	27.73
ATOM	10199	C	VAL	5279	40.012	19.939	46.904	1.00	28.36
ATOM	10200	O	VAL	5279	39.953	20.947	47.601	1.00	28.06
ATOM	10201	N	TYR	5280	39.807	18.722	47.377	1.00	28.13
ATOM	10202	CA	TYR	5280	39.569	18.504	48.786	1.00	27.39
ATOM	10203	CB	TYR	5280	38.164	17.968	49.070	1.00	26.36
ATOM	10204	CG	TYR	5280	38.041	17.600	50.527	1.00	26.25
ATOM	10205	CD1	TYR	5280	37.944	18.589	51.502	1.00	26.23
ATOM	10206	CE1	TYR	5280	38.018	18.277	52.856	1.00	27.10
ATOM	10207	CD2	TYR	5280	38.188	16.275	50.946	1.00	26.20
ATOM	10208	CE2	TYR	5280	38.263	15.947	52.290	1.00	26.49
ATOM	10209	CZ	TYR	5280	38.186	16.951	53.244	1.00	27.36
ATOM	10210	OH	TYR	5280	38.337	16.650	54.582	1.00	27.42
ATOM	10211	C	TYR	5280	40.593	17.482	49.273	1.00	26.90
ATOM	10212	O	TYR	5280	40.830	16.467	48.623	1.00	26.28
ATOM	10213	N	SER	5281	41.202	17.763	50.415	1.00	26.83
ATOM	10214	CA	SER	5281	42.176	16.860	50.999	1.00	26.77
ATOM	10215	CB	SER	5281	43.473	16.836	50.187	1.00	27.14
ATOM	10216	OG	SER	5281	44.498	16.135	50.889	1.00	26.75
ATOM	10217	C	SER	5281	42.483	17.302	52.414	1.00	26.84
ATOM	10218	O	SER	5281	42.708	18.488	52.664	1.00	27.00
ATOM	10219	N	ASP	5282	42.475	16.347	53.343	1.00	27.34
ATOM	10220	CA	ASP	5282	42.790	16.644	54.738	1.00	27.40
ATOM	10221	CB	ASP	5282	42.425	15.471	55.642	1.00	27.94
ATOM	10222	CG	ASP	5282	42.603	15.790	57.116	1.00	29.06
ATOM	10223	OD1	ASP	5282	42.118	14.988	57.939	1.00	30.66
ATOM	10224	OD2	ASP	5282	43.226	16.822	57.459	1.00	27.86

ATOM	10225	C	ASP	5282	44.285	16.934	54.785	1.00	27.07
ATOM	10226	O	ASP	5282	44.697	18.031	55.150	1.00	26.29
ATOM	10227	N	PRO	5283	45.121	15.953	54.438	1.00	27.13
ATOM	10228	CD	PRO	5283	44.917	14.520	54.176	1.00	27.06
ATOM	10229	CA	PRO	5283	46.548	16.291	54.473	1.00	27.68
ATOM	10230	CB	PRO	5283	47.233	14.959	54.166	1.00	27.56
ATOM	10231	CG	PRO	5283	46.226	13.935	54.627	1.00	28.45
ATOM	10232	C	PRO	5283	46.751	17.311	53.332	1.00	27.92
ATOM	10233	O	PRO	5283	46.039	17.277	52.314	1.00	27.61
ATOM	10234	N	GLN	5284	47.705	18.216	53.502	1.00	28.03
ATOM	10235	CA	GLN	5284	47.994	19.238	52.496	1.00	27.94
ATOM	10236	CB	GLN	5284	49.225	20.027	52.939	1.00	27.20
ATOM	10237	CG	GLN	5284	49.090	21.522	52.814	1.00	28.39
ATOM	10238	CD	GLN	5284	47.813	22.049	53.422	1.00	26.91
ATOM	10239	OE1	GLN	5284	47.514	21.802	54.589	1.00	26.94
ATOM	10240	NE2	GLN	5284	47.054	22.785	52.633	1.00	27.19
ATOM	10241	C	GLN	5284	48.236	18.597	51.122	1.00	27.97
ATOM	10242	O	GLN	5284	49.077	17.720	50.976	1.00	28.43
ATOM	10243	N	PRO	5285	47.478	19.011	50.099	1.00	28.19
ATOM	10244	CD	PRO	5285	46.213	19.770	50.153	1.00	27.10
ATOM	10245	CA	PRO	5285	47.665	18.436	48.761	1.00	28.12
ATOM	10246	CB	PRO	5285	46.259	18.444	48.195	1.00	26.73
ATOM	10247	CG	PRO	5285	45.761	19.766	48.699	1.00	25.67
ATOM	10248	C	PRO	5285	48.599	19.246	47.868	1.00	28.36
ATOM	10249	O	PRO	5285	48.724	20.467	48.007	1.00	28.38
ATOM	10250	N	HIS	5286	49.248	18.565	46.937	1.00	28.59
ATOM	10251	CA	HIS	5286	50.121	19.256	46.005	1.00	28.71
ATOM	10252	CB	HIS	5286	51.520	18.618	45.930	1.00	28.72
ATOM	10253	CG	HIS	5286	52.451	19.330	44.993	1.00	29.56
ATOM	10254	CD2	HIS	5286	53.154	20.481	45.138	1.00	29.69
ATOM	10255	ND1	HIS	5286	52.668	18.914	43.695	1.00	30.63
ATOM	10256	CE1	HIS	5286	53.459	19.780	43.083	1.00	30.16
ATOM	10257	NE2	HIS	5286	53.767	20.739	43.936	1.00	29.14
ATOM	10258	C	HIS	5286	49.458	19.203	44.646	1.00	28.24
ATOM	10259	O	HIS	5286	49.323	18.135	44.068	1.00	28.10
ATOM	10260	N	ILE	5287	49.040	20.366	44.155	1.00	29.06
ATOM	10261	CA	ILE	5287	48.373	20.477	42.862	1.00	29.58
ATOM	10262	CB	ILE	5287	47.296	21.563	42.862	1.00	29.09
ATOM	10263	CG2	ILE	5287	46.590	21.596	41.512	1.00	28.74
ATOM	10264	CG1	ILE	5287	46.251	21.279	43.933	1.00	29.17
ATOM	10265	CD1	ILE	5287	45.146	22.333	43.942	1.00	29.77
ATOM	10266	C	ILE	5287	49.352	20.813	41.753	1.00	30.18
ATOM	10267	O	ILE	5287	50.379	21.432	41.991	1.00	30.78
ATOM	10268	N	GLN	5288	49.004	20.424	40.532	1.00	31.03
ATOM	10269	CA	GLN	5288	49.857	20.646	39.379	1.00	31.32
ATOM	10270	CB	GLN	5288	50.859	19.503	39.316	1.00	32.32
ATOM	10271	CG	GLN	5288	51.961	19.597	38.287	1.00	34.08
ATOM	10272	CD	GLN	5288	52.831	18.348	38.314	1.00	34.59
ATOM	10273	OE1	GLN	5288	53.236	17.890	39.385	1.00	34.67
ATOM	10274	NE2	GLN	5288	53.112	17.786	37.139	1.00	35.19
ATOM	10275	C	GLN	5288	48.984	20.647	38.139	1.00	31.26
ATOM	10276	O	GLN	5288	48.059	19.849	38.048	1.00	32.80
ATOM	10277	N	TRP	5289	49.253	21.553	37.203	1.00	30.40
ATOM	10278	CA	TRP	5289	48.494	21.620	35.957	1.00	29.49
ATOM	10279	CB	TRP	5289	47.994	23.040	35.693	1.00	26.55
ATOM	10280	CG	TRP	5289	46.796	23.457	36.513	1.00	23.73
ATOM	10281	CD2	TRP	5289	45.420	23.306	36.154	1.00	21.76
ATOM	10282	CE2	TRP	5289	44.650	23.853	37.206	1.00	21.39
ATOM	10283	CE3	TRP	5289	44.761	22.761	35.044	1.00	21.26
ATOM	10284	CD1	TRP	5289	46.805	24.067	37.734	1.00	22.50
ATOM	10285	NE1	TRP	5289	45.521	24.311	38.154	1.00	20.90
ATOM	10286	CZ2	TRP	5289	43.248	23.871	37.183	1.00	21.66

ATOM	10287	CZ3	TRP	5289	43.368	22.776	35.018	1.00	21.98
ATOM	10288	CH2	TRP	5289	42.625	23.329	36.085	1.00	21.49
ATOM	10289	C	TRP	5289	49.370	21.170	34.790	1.00	31.04
ATOM	10290	O	TRP	5289	50.483	21.659	34.616	1.00	31.38
ATOM	10291	N	LEU	5290	48.863	20.242	33.989	1.00	32.31
ATOM	10292	CA	LEU	5290	49.612	19.718	32.853	1.00	34.36
ATOM	10293	CB	LEU	5290	49.869	18.219	33.018	1.00	35.64
ATOM	10294	CG	LEU	5290	50.528	17.732	34.299	1.00	37.42
ATOM	10295	CD1	LEU	5290	49.573	17.941	35.467	1.00	38.46
ATOM	10296	CD2	LEU	5290	50.871	16.267	34.162	1.00	38.38
ATOM	10297	C	LEU	5290	48.880	19.902	31.540	1.00	35.25
ATOM	10298	O	LEU	5290	47.654	19.962	31.504	1.00	35.01
ATOM	10299	N	LYS	5291	49.649	19.967	30.460	1.00	36.81
ATOM	10300	CA	LYS	5291	49.107	20.100	29.109	1.00	37.80
ATOM	10301	CB	LYS	5291	49.613	21.396	28.470	1.00	39.53
ATOM	10302	CG	LYS	5291	48.890	21.879	27.202	1.00	41.79
ATOM	10303	CD	LYS	5291	48.912	20.863	26.075	1.00	44.34
ATOM	10304	CE	LYS	5291	48.428	21.464	24.738	1.00	45.53
ATOM	10305	NZ	LYS	5291	49.435	22.400	24.102	1.00	45.52
ATOM	10306	C	LYS	5291	49.670	18.900	28.360	1.00	38.13
ATOM	10307	O	LYS	5291	50.879	18.686	28.356	1.00	38.68
ATOM	10308	N	HIS	5292	48.804	18.092	27.762	1.00	38.93
ATOM	10309	CA	HIS	5292	49.265	16.926	27.011	1.00	39.49
ATOM	10310	CB	HIS	5292	48.121	15.943	26.802	1.00	39.59
ATOM	10311	CG	HIS	5292	47.678	15.275	28.060	1.00	40.09
ATOM	10312	CD2	HIS	5292	47.320	15.787	29.261	1.00	40.51
ATOM	10313	ND1	HIS	5292	47.631	13.906	28.195	1.00	39.83
ATOM	10314	CE1	HIS	5292	47.269	13.602	29.428	1.00	40.50
ATOM	10315	NE2	HIS	5292	47.075	14.725	30.095	1.00	40.90
ATOM	10316	C	HIS	5292	49.785	17.414	25.667	1.00	39.74
ATOM	10317	O	HIS	5292	49.063	18.081	24.936	1.00	39.97
ATOM	10318	N	ILE	5293	51.029	17.102	25.326	1.00	38.77
ATOM	10319	CA	ILE	5293	51.562	17.591	24.065	1.00	38.31
ATOM	10320	CB	ILE	5293	52.765	18.544	24.300	1.00	37.17
ATOM	10321	CG2	ILE	5293	52.316	19.752	25.117	1.00	35.55
ATOM	10322	CG1	ILE	5293	53.907	17.801	25.012	1.00	36.13
ATOM	10323	CD1	ILE	5293	55.161	18.630	25.201	1.00	33.80
ATOM	10324	C	ILE	5293	51.977	16.513	23.084	1.00	39.11
ATOM	10325	O	ILE	5293	51.998	15.328	23.412	1.00	39.35
ATOM	10326	N	GLU	5294	52.286	16.941	21.867	1.00	40.36
ATOM	10327	CA	GLU	5294	52.729	16.039	20.813	1.00	41.99
ATOM	10328	CB	GLU	5294	51.870	16.208	19.552	1.00	40.99
ATOM	10329	C	GLU	5294	54.185	16.367	20.487	1.00	43.41
ATOM	10330	O	GLU	5294	54.501	17.472	20.039	1.00	43.12
ATOM	10331	N	VAL	5295	55.072	15.416	20.742	1.00	45.38
ATOM	10332	CA	VAL	5295	56.482	15.608	20.438	1.00	47.83
ATOM	10333	CB	VAL	5295	57.368	15.067	21.571	1.00	47.77
ATOM	10334	CG1	VAL	5295	58.811	15.001	21.119	1.00	47.71
ATOM	10335	CG2	VAL	5295	57.243	15.975	22.781	1.00	47.62
ATOM	10336	C	VAL	5295	56.782	14.869	19.137	1.00	49.26
ATOM	10337	O	VAL	5295	56.832	13.639	19.105	1.00	49.49
ATOM	10338	N	ASN	5296	56.973	15.625	18.063	1.00	51.19
ATOM	10339	CA	ASN	5296	57.221	15.022	16.759	1.00	53.69
ATOM	10340	CB	ASN	5296	58.476	14.144	16.787	1.00	55.05
ATOM	10341	CG	ASN	5296	59.733	14.932	17.095	1.00	56.48
ATOM	10342	OD1	ASN	5296	59.955	16.012	16.539	1.00	57.11
ATOM	10343	ND2	ASN	5296	60.572	14.389	17.974	1.00	56.57
ATOM	10344	C	ASN	5296	56.015	14.167	16.361	1.00	54.68
ATOM	10345	O	ASN	5296	56.099	12.934	16.302	1.00	54.21
ATOM	10346	N	GLY	5297	54.890	14.835	16.118	1.00	55.53
ATOM	10347	CA	GLY	5297	53.677	14.151	15.703	1.00	56.63
ATOM	10348	C	GLY	5297	53.045	13.148	16.653	1.00	57.60

ATOM	10349	O	GLY	5297	51.843	12.888	16.558	1.00	57.89
ATOM	10350	N	SER	5298	53.826	12.581	17.567	1.00	58.23
ATOM	10351	CA	SER	5298	53.281	11.597	18.496	1.00	58.64
ATOM	10352	CB	SER	5298	54.249	10.435	18.642	1.00	58.50
ATOM	10353	OG	SER	5298	55.514	10.919	19.031	1.00	59.49
ATOM	10354	C	SER	5298	52.956	12.165	19.872	1.00	58.82
ATOM	10355	O	SER	5298	53.648	13.049	20.380	1.00	58.64
ATOM	10356	N	LYS	5299	51.893	11.632	20.466	1.00	59.07
ATOM	10357	CA	LYS	5299	51.428	12.055	21.779	1.00	59.23
ATOM	10358	CB	LYS	5299	49.899	11.940	21.867	1.00	59.15
ATOM	10359	CG	LYS	5299	49.119	12.608	20.747	1.00	59.36
ATOM	10360	CD	LYS	5299	47.627	12.297	20.874	1.00	59.78
ATOM	10361	CE	LYS	5299	46.819	12.808	19.669	1.00	60.26
ATOM	10362	NZ	LYS	5299	45.348	12.490	19.752	1.00	59.35
ATOM	10363	C	LYS	5299	52.041	11.172	22.861	1.00	59.33
ATOM	10364	O	LYS	5299	52.012	11.513	24.045	1.00	59.23
ATOM	10365	N	ILE	5300	52.598	10.038	22.448	1.00	59.52
ATOM	10366	CA	ILE	5300	53.174	9.096	23.396	1.00	59.85
ATOM	10367	CB	ILE	5300	52.599	7.685	23.167	1.00	59.82
ATOM	10368	CG2	ILE	5300	53.043	6.755	24.282	1.00	59.60
ATOM	10369	CG1	ILE	5300	51.072	7.747	23.116	1.00	59.87
ATOM	10370	CD1	ILE	5300	50.437	8.292	24.378	1.00	60.49
ATOM	10371	C	ILE	5300	54.697	8.995	23.390	1.00	60.27
ATOM	10372	O	ILE	5300	55.323	8.829	22.344	1.00	59.86
ATOM	10373	N	GLY	5301	55.273	9.090	24.586	1.00	60.96
ATOM	10374	CA	GLY	5301	56.710	8.988	24.752	1.00	61.89
ATOM	10375	C	GLY	5301	57.122	7.533	24.887	1.00	62.39
ATOM	10376	O	GLY	5301	56.284	6.682	25.190	1.00	62.69
ATOM	10377	N	PRO	5302	58.411	7.217	24.685	1.00	62.57
ATOM	10378	CD	PRO	5302	59.472	8.224	24.502	1.00	62.72
ATOM	10379	CA	PRO	5302	58.991	5.867	24.765	1.00	62.69
ATOM	10380	CB	PRO	5302	60.483	6.155	24.921	1.00	62.80
ATOM	10381	CG	PRO	5302	60.656	7.380	24.074	1.00	62.86
ATOM	10382	C	PRO	5302	58.447	4.950	25.873	1.00	62.40
ATOM	10383	O	PRO	5302	58.164	3.776	25.637	1.00	62.11
ATOM	10384	N	ASP	5303	58.316	5.486	27.080	1.00	62.03
ATOM	10385	CA	ASP	5303	57.811	4.721	28.213	1.00	61.87
ATOM	10386	CB	ASP	5303	58.035	5.516	29.496	1.00	62.94
ATOM	10387	CG	ASP	5303	57.492	6.939	29.400	1.00	63.81
ATOM	10388	OD1	ASP	5303	57.562	7.669	30.411	1.00	64.46
ATOM	10389	OD2	ASP	5303	56.999	7.327	28.315	1.00	63.83
ATOM	10390	C	ASP	5303	56.319	4.392	28.083	1.00	61.35
ATOM	10391	O	ASP	5303	55.693	3.947	29.049	1.00	61.31
ATOM	10392	N	ASN	5304	55.761	4.609	26.892	1.00	59.99
ATOM	10393	CA	ASN	5304	54.343	4.361	26.622	1.00	58.57
ATOM	10394	CB	ASN	5304	53.974	2.900	26.938	1.00	59.52
ATOM	10395	CG	ASN	5304	52.581	2.511	26.419	1.00	59.85
ATOM	10396	OD1	ASN	5304	52.254	2.738	25.253	1.00	60.05
ATOM	10397	ND2	ASN	5304	51.767	1.909	27.286	1.00	59.59
ATOM	10398	C	ASN	5304	53.468	5.323	27.434	1.00	57.22
ATOM	10399	O	ASN	5304	52.258	5.128	27.560	1.00	56.75
ATOM	10400	N	LEU	5305	54.101	6.355	27.988	1.00	55.89
ATOM	10401	CA	LEU	5305	53.408	7.378	28.769	1.00	54.56
ATOM	10402	CB	LEU	5305	54.242	7.835	29.967	1.00	55.05
ATOM	10403	CG	LEU	5305	54.198	7.051	31.276	1.00	55.37
ATOM	10404	CD1	LEU	5305	52.760	6.937	31.740	1.00	54.99
ATOM	10405	CD2	LEU	5305	54.818	5.681	31.088	1.00	55.86
ATOM	10406	C	LEU	5305	53.203	8.571	27.863	1.00	53.34
ATOM	10407	O	LEU	5305	53.934	8.745	26.891	1.00	53.64
ATOM	10408	N	PRO	5306	52.198	9.407	28.162	1.00	52.05
ATOM	10409	CD	PRO	5306	51.063	9.121	29.059	1.00	51.32
ATOM	10410	CA	PRO	5306	51.931	10.592	27.340	1.00	50.63

ATOM	10411	CB	PRO	5306	50.455	10.873	27.618	1.00	50.67
ATOM	10412	CG	PRO	5306	50.295	10.418	29.032	1.00	50.84
ATOM	10413	C	PRO	5306	52.825	11.785	27.674	1.00	49.17
ATOM	10414	O	PRO	5306	53.087	12.074	28.844	1.00	48.51
ATOM	10415	N	TYR	5307	53.298	12.467	26.637	1.00	48.14
ATOM	10416	CA	TYR	5307	54.141	13.642	26.817	1.00	47.11
ATOM	10417	CB	TYR	5307	54.611	14.192	25.471	1.00	47.60
ATOM	10418	CG	TYR	5307	55.587	13.322	24.728	1.00	49.25
ATOM	10419	CD1	TYR	5307	55.292	12.850	23.444	1.00	49.89
ATOM	10420	CE1	TYR	5307	56.208	12.076	22.735	1.00	50.56
ATOM	10421	CD2	TYR	5307	56.827	12.995	25.287	1.00	49.53
ATOM	10422	CE2	TYR	5307	57.752	12.221	24.586	1.00	49.84
ATOM	10423	CZ	TYR	5307	57.437	11.766	23.314	1.00	50.77
ATOM	10424	OH	TYR	5307	58.345	10.999	22.620	1.00	51.70
ATOM	10425	C	TYR	5307	53.304	14.708	27.498	1.00	46.11
ATOM	10426	O	TYR	5307	52.194	15.003	27.043	1.00	46.08
ATOM	10427	N	VAL	5308	53.830	15.281	28.580	1.00	45.14
ATOM	10428	CA	VAL	5308	53.126	16.333	29.311	1.00	43.39
ATOM	10429	CB	VAL	5308	52.628	15.820	30.679	1.00	42.70
ATOM	10430	CG1	VAL	5308	51.736	14.616	30.485	1.00	42.10
ATOM	10431	CG2	VAL	5308	53.809	15.462	31.558	1.00	41.79
ATOM	10432	C	VAL	5308	54.029	17.537	29.554	1.00	42.39
ATOM	10433	O	VAL	5308	55.244	17.411	29.600	1.00	42.56
ATOM	10434	N	GLN	5309	53.423	18.704	29.709	1.00	41.50
ATOM	10435	CA	GLN	5309	54.166	19.928	29.972	1.00	39.83
ATOM	10436	CB	GLN	5309	53.954	20.927	28.831	1.00	39.25
ATOM	10437	CG	GLN	5309	54.891	22.122	28.877	1.00	38.16
ATOM	10438	CD	GLN	5309	54.402	23.307	28.059	1.00	37.21
ATOM	10439	OE1	GLN	5309	53.810	23.144	27.002	1.00	37.23
ATOM	10440	NE2	GLN	5309	54.666	24.506	28.548	1.00	37.17
ATOM	10441	C	GLN	5309	53.607	20.510	31.272	1.00	39.26
ATOM	10442	O	GLN	5309	52.402	20.769	31.358	1.00	39.28
ATOM	10443	N	ILE	5310	54.462	20.693	32.280	1.00	38.19
ATOM	10444	CA	ILE	5310	54.019	21.254	33.553	1.00	36.78
ATOM	10445	CB	ILE	5310	55.074	21.128	34.674	1.00	35.58
ATOM	10446	CG2	ILE	5310	54.447	21.505	36.009	1.00	35.16
ATOM	10447	CG1	ILE	5310	55.633	19.704	34.747	1.00	35.17
ATOM	10448	CD1	ILE	5310	54.622	18.636	34.858	1.00	34.52
ATOM	10449	C	ILE	5310	53.767	22.733	33.326	1.00	37.12
ATOM	10450	O	ILE	5310	54.682	23.480	32.990	1.00	37.92
ATOM	10451	N	LEU	5311	52.526	23.161	33.511	1.00	36.70
ATOM	10452	CA	LEU	5311	52.185	24.561	33.295	1.00	36.53
ATOM	10453	CB	LEU	5311	50.837	24.682	32.593	1.00	36.05
ATOM	10454	CG	LEU	5311	50.810	24.107	31.185	1.00	36.98
ATOM	10455	CD1	LEU	5311	49.416	24.251	30.587	1.00	37.07
ATOM	10456	CD2	LEU	5311	51.851	24.827	30.337	1.00	36.73
ATOM	10457	C	LEU	5311	52.122	25.358	34.568	1.00	36.28
ATOM	10458	O	LEU	5311	52.248	26.571	34.535	1.00	36.46
ATOM	10459	N	LYS	5312	51.925	24.680	35.692	1.00	36.20
ATOM	10460	CA	LYS	5312	51.804	25.362	36.969	1.00	35.17
ATOM	10461	CB	LYS	5312	50.410	25.972	37.047	1.00	34.80
ATOM	10462	CG	LYS	5312	50.255	27.144	37.980	1.00	34.34
ATOM	10463	CD	LYS	5312	48.890	27.753	37.774	1.00	33.27
ATOM	10464	CE	LYS	5312	48.691	28.993	38.612	1.00	33.15
ATOM	10465	NZ	LYS	5312	47.376	29.638	38.310	1.00	33.22
ATOM	10466	C	LYS	5312	52.013	24.342	38.086	1.00	35.15
ATOM	10467	O	LYS	5312	51.437	23.262	38.061	1.00	35.01
ATOM	10468	N	THR	5313	52.842	24.685	39.061	1.00	34.86
ATOM	10469	CA	THR	5313	53.126	23.776	40.154	1.00	35.35
ATOM	10470	CB	THR	5313	54.515	23.137	39.988	1.00	35.34
ATOM	10471	OG1	THR	5313	54.557	22.419	38.750	1.00	36.77
ATOM	10472	CG2	THR	5313	54.806	22.175	41.139	1.00	34.58

ATOM	10473	C	THR	5313	53.075	24.472	41.507	1.00	35.10
ATOM	10474	O	THR	5313	53.708	25.506	41.708	1.00	35.50
ATOM	10475	N	ALA	5314	52.322	23.893	42.436	1.00	34.64
ATOM	10476	CA	ALA	5314	52.198	24.457	43.776	1.00	34.20
ATOM	10477	CB	ALA	5314	51.149	23.696	44.580	1.00	33.71
ATOM	10478	C	ALA	5314	53.537	24.397	44.496	1.00	33.91
ATOM	10479	O	ALA	5314	54.336	23.490	44.279	1.00	33.61
ATOM	10480	N	GLY	5315	53.768	25.378	45.357	1.00	33.75
ATOM	10481	CA	GLY	5315	54.999	25.439	46.113	1.00	34.07
ATOM	10482	C	GLY	5315	55.047	26.779	46.803	1.00	34.87
ATOM	10483	O	GLY	5315	54.070	27.525	46.778	1.00	34.86
ATOM	10484	N	VAL	5316	56.175	27.115	47.409	1.00	35.44
ATOM	10485	CA	VAL	5316	56.252	28.394	48.089	1.00	36.36
ATOM	10486	CB	VAL	5316	57.536	28.547	48.883	1.00	36.51
ATOM	10487	CG1	VAL	5316	57.359	29.678	49.872	1.00	38.83
ATOM	10488	CG2	VAL	5316	57.856	27.280	49.615	1.00	38.27
ATOM	10489	C	VAL	5316	56.145	29.586	47.153	1.00	36.55
ATOM	10490	O	VAL	5316	55.750	30.667	47.571	1.00	36.85
ATOM	10491	N	ASN	5317	56.488	29.391	45.886	1.00	37.03
ATOM	10492	CA	ASN	5317	56.437	30.473	44.917	1.00	37.57
ATOM	10493	CB	ASN	5317	57.566	30.290	43.899	1.00	38.06
ATOM	10494	CG	ASN	5317	58.940	30.299	44.554	1.00	39.05
ATOM	10495	OD1	ASN	5317	59.710	29.345	44.417	1.00	40.19
ATOM	10496	ND2	ASN	5317	59.253	31.376	45.272	1.00	38.32
ATOM	10497	C	ASN	5317	55.084	30.586	44.219	1.00	37.44
ATOM	10498	O	ASN	5317	54.761	31.610	43.624	1.00	37.63
ATOM	10499	N	THR	5318	54.295	29.527	44.288	1.00	37.35
ATOM	10500	CA	THR	5318	52.973	29.538	43.685	1.00	37.60
ATOM	10501	CB	THR	5318	52.935	28.712	42.410	1.00	37.44
ATOM	10502	OG1	THR	5318	54.147	28.933	41.670	1.00	39.08
ATOM	10503	CG2	THR	5318	51.743	29.125	41.565	1.00	36.48
ATOM	10504	C	THR	5318	52.059	28.915	44.717	1.00	37.45
ATOM	10505	O	THR	5318	51.798	27.713	44.684	1.00	38.01
ATOM	10506	N	THR	5319	51.583	29.735	45.646	1.00	37.04
ATOM	10507	CA	THR	5319	50.740	29.213	46.701	1.00	37.61
ATOM	10508	CB	THR	5319	50.607	30.203	47.879	1.00	37.70
ATOM	10509	OG1	THR	5319	49.967	31.411	47.451	1.00	37.73
ATOM	10510	CG2	THR	5319	51.996	30.521	48.435	1.00	37.21
ATOM	10511	C	THR	5319	49.380	28.724	46.247	1.00	38.11
ATOM	10512	O	THR	5319	48.949	28.964	45.109	1.00	38.17
ATOM	10513	N	ASP	5320	48.729	27.996	47.145	1.00	38.19
ATOM	10514	CA	ASP	5320	47.426	27.411	46.884	1.00	39.44
ATOM	10515	CB	ASP	5320	46.977	26.617	48.107	1.00	38.79
ATOM	10516	CG	ASP	5320	47.929	25.480	48.438	1.00	39.99
ATOM	10517	OD1	ASP	5320	48.404	24.820	47.487	1.00	39.90
ATOM	10518	OD2	ASP	5320	48.202	25.235	49.637	1.00	40.11
ATOM	10519	C	ASP	5320	46.354	28.416	46.497	1.00	40.12
ATOM	10520	O	ASP	5320	45.424	28.078	45.765	1.00	40.26
ATOM	10521	N	LYS	5321	46.486	29.650	46.983	1.00	40.77
ATOM	10522	CA	LYS	5321	45.507	30.698	46.686	1.00	41.52
ATOM	10523	CB	LYS	5321	46.017	32.115	47.038	1.00	41.56
ATOM	10524	CG	LYS	5321	46.784	32.335	48.334	1.00	42.74
ATOM	10525	CD	LYS	5321	47.179	33.831	48.437	1.00	43.43
ATOM	10526	CE	LYS	5321	48.194	34.141	49.554	1.00	44.17
ATOM	10527	NZ	LYS	5321	49.655	34.060	49.149	1.00	45.09
ATOM	10528	C	LYS	5321	45.187	30.735	45.196	1.00	41.41
ATOM	10529	O	LYS	5321	44.070	31.066	44.801	1.00	41.23
ATOM	10530	N	GLU	5322	46.174	30.400	44.375	1.00	41.24
ATOM	10531	CA	GLU	5322	45.999	30.472	42.937	1.00	41.66
ATOM	10532	CB	GLU	5322	46.980	31.513	42.374	1.00	42.60
ATOM	10533	CG	GLU	5322	48.408	31.390	42.902	1.00	43.38
ATOM	10534	CD	GLU	5322	49.211	32.691	42.753	1.00	45.10

ATOM	10535	OE1	GLU	5322	49.546	33.078	41.604	1.00	45.81
ATOM	10536	OE2	GLU	5322	49.504	33.332	43.792	1.00	44.28
ATOM	10537	C	GLU	5322	46.132	29.186	42.148	1.00	40.49
ATOM	10538	O	GLU	5322	46.142	29.222	40.921	1.00	40.81
ATOM	10539	N	MSE	5323	46.211	28.053	42.830	1.00	39.13
ATOM	10540	CA	MSE	5323	46.382	26.801	42.119	1.00	37.91
ATOM	10541	CB	MSE	5323	47.179	25.839	42.993	1.00	35.02
ATOM	10542	CG	MSE	5323	48.634	26.283	43.231	1.00	30.86
ATOM	10543	SE	MSE	5323	49.630	26.327	41.722	1.00	24.89
ATOM	10544	CE	MSE	5323	49.361	24.667	41.069	1.00	24.32
ATOM	10545	C	MSE	5323	45.098	26.148	41.615	1.00	38.45
ATOM	10546	O	MSE	5323	45.150	25.223	40.813	1.00	38.73
ATOM	10547	N	GLU	5324	43.945	26.634	42.059	1.00	38.47
ATOM	10548	CA	GLU	5324	42.691	26.051	41.615	1.00	39.01
ATOM	10549	CB	GLU	5324	41.633	26.186	42.716	1.00	38.16
ATOM	10550	CG	GLU	5324	42.025	25.460	44.005	1.00	38.69
ATOM	10551	CD	GLU	5324	40.867	25.304	45.000	1.00	39.49
ATOM	10552	OE1	GLU	5324	40.313	26.350	45.424	1.00	39.47
ATOM	10553	OE2	GLU	5324	40.521	24.139	45.354	1.00	37.80
ATOM	10554	C	GLU	5324	42.195	26.641	40.285	1.00	39.36
ATOM	10555	O	GLU	5324	41.082	26.359	39.841	1.00	39.99
ATOM	10556	N	VAL	5325	43.031	27.436	39.630	1.00	39.05
ATOM	10557	CA	VAL	5325	42.634	28.022	38.363	1.00	39.21
ATOM	10558	CB	VAL	5325	41.984	29.413	38.607	1.00	38.69
ATOM	10559	CG1	VAL	5325	42.989	30.363	39.194	1.00	38.98
ATOM	10560	CG2	VAL	5325	41.422	29.968	37.322	1.00	39.54
ATOM	10561	C	VAL	5325	43.829	28.137	37.415	1.00	39.16
ATOM	10562	O	VAL	5325	44.930	28.449	37.835	1.00	39.92
ATOM	10563	N	LEU	5326	43.612	27.849	36.139	1.00	39.09
ATOM	10564	CA	LEU	5326	44.667	27.949	35.144	1.00	38.77
ATOM	10565	CB	LEU	5326	44.929	26.593	34.490	1.00	37.52
ATOM	10566	CG	LEU	5326	45.967	26.607	33.367	1.00	35.59
ATOM	10567	CD1	LEU	5326	47.339	26.893	33.944	1.00	34.49
ATOM	10568	CD2	LEU	5326	45.959	25.282	32.650	1.00	34.98
ATOM	10569	C	LEU	5326	44.225	28.940	34.082	1.00	39.03
ATOM	10570	O	LEU	5326	43.193	28.752	33.448	1.00	38.82
ATOM	10571	N	HIS	5327	45.011	29.990	33.889	1.00	39.93
ATOM	10572	CA	HIS	5327	44.689	31.012	32.903	1.00	40.97
ATOM	10573	CB	HIS	5327	44.879	32.393	33.508	1.00	39.76
ATOM	10574	CG	HIS	5327	44.016	32.640	34.697	1.00	39.04
ATOM	10575	CD2	HIS	5327	44.305	32.658	36.019	1.00	39.11
ATOM	10576	ND1	HIS	5327	42.659	32.851	34.596	1.00	38.85
ATOM	10577	CE1	HIS	5327	42.147	32.992	35.806	1.00	39.06
ATOM	10578	NE2	HIS	5327	43.125	32.878	36.687	1.00	39.71
ATOM	10579	C	HIS	5327	45.508	30.902	31.630	1.00	42.10
ATOM	10580	O	HIS	5327	46.727	30.749	31.661	1.00	42.54
ATOM	10581	N	LEU	5328	44.814	30.963	30.503	1.00	43.11
ATOM	10582	CA	LEU	5328	45.447	30.905	29.194	1.00	43.92
ATOM	10583	CB	LEU	5328	44.996	29.659	28.416	1.00	42.36
ATOM	10584	CG	LEU	5328	45.430	28.265	28.901	1.00	41.94
ATOM	10585	CD1	LEU	5328	44.775	27.218	28.013	1.00	41.34
ATOM	10586	CD2	LEU	5328	46.945	28.107	28.861	1.00	39.71
ATOM	10587	C	LEU	5328	45.012	32.180	28.463	1.00	45.53
ATOM	10588	O	LEU	5328	43.813	32.444	28.296	1.00	45.69
ATOM	10589	N	ARG	5329	45.990	32.973	28.038	1.00	46.93
ATOM	10590	CA	ARG	5329	45.715	34.235	27.363	1.00	48.65
ATOM	10591	CB	ARG	5329	46.580	35.342	27.978	1.00	50.02
ATOM	10592	CG	ARG	5329	46.280	36.747	27.467	1.00	52.96
ATOM	10593	CD	ARG	5329	47.288	37.767	27.975	1.00	54.85
ATOM	10594	NE	ARG	5329	46.940	39.133	27.577	1.00	57.63
ATOM	10595	CZ	ARG	5329	47.744	40.188	27.704	1.00	59.28
ATOM	10596	NH1	ARG	5329	48.956	40.042	28.216	1.00	59.15

ATOM	10597	NH2	ARG	5329	47.335	41.396	27.312	1.00	59.24
ATOM	10598	C	ARG	5329	45.966	34.165	25.864	1.00	48.65
ATOM	10599	O	ARG	5329	46.919	33.534	25.417	1.00	48.60
ATOM	10600	N	ASN	5330	45.106	34.836	25.100	1.00	49.38
ATOM	10601	CA	ASN	5330	45.207	34.875	23.644	1.00	49.52
ATOM	10602	CB	ASN	5330	46.185	35.979	23.232	1.00	50.59
ATOM	10603	CG	ASN	5330	46.386	36.055	21.736	1.00	51.66
ATOM	10604	OD1	ASN	5330	47.326	35.465	21.195	1.00	52.16
ATOM	10605	ND2	ASN	5330	45.497	36.773	21.052	1.00	51.60
ATOM	10606	C	ASN	5330	45.643	33.512	23.116	1.00	49.46
ATOM	10607	O	ASN	5330	46.764	33.328	22.645	1.00	48.80
ATOM	10608	N	VAL	5331	44.728	32.554	23.199	1.00	49.96
ATOM	10609	CA	VAL	5331	45.007	31.187	22.776	1.00	49.78
ATOM	10610	CB	VAL	5331	43.884	30.224	23.232	1.00	49.78
ATOM	10611	CG1	VAL	5331	43.733	30.281	24.741	1.00	49.25
ATOM	10612	CG2	VAL	5331	42.576	30.594	22.555	1.00	49.72
ATOM	10613	C	VAL	5331	45.205	31.012	21.282	1.00	49.34
ATOM	10614	O	VAL	5331	44.521	31.630	20.473	1.00	48.98
ATOM	10615	N	SER	5332	46.157	30.156	20.932	1.00	49.63
ATOM	10616	CA	SER	5332	46.454	29.853	19.534	1.00	50.14
ATOM	10617	CB	SER	5332	47.964	29.865	19.276	1.00	49.77
ATOM	10618	OG	SER	5332	48.565	28.655	19.706	1.00	48.75
ATOM	10619	C	SER	5332	45.923	28.453	19.260	1.00	50.29
ATOM	10620	O	SER	5332	45.307	27.843	20.130	1.00	50.42
ATOM	10621	N	PHE	5333	46.156	27.943	18.055	1.00	50.47
ATOM	10622	CA	PHE	5333	45.700	26.596	17.717	1.00	50.89
ATOM	10623	CB	PHE	5333	45.786	26.332	16.210	1.00	50.04
ATOM	10624	CG	PHE	5333	44.717	27.012	15.405	1.00	50.14
ATOM	10625	CD1	PHE	5333	45.049	27.992	14.467	1.00	50.12
ATOM	10626	CD2	PHE	5333	43.379	26.673	15.576	1.00	49.78
ATOM	10627	CE1	PHE	5333	44.064	28.621	13.712	1.00	49.70
ATOM	10628	CE2	PHE	5333	42.386	27.296	14.826	1.00	50.11
ATOM	10629	CZ	PHE	5333	42.729	28.273	13.892	1.00	49.91
ATOM	10630	C	PHE	5333	46.579	25.588	18.433	1.00	50.99
ATOM	10631	O	PHE	5333	46.194	24.443	18.637	1.00	50.49
ATOM	10632	N	GLU	5334	47.770	26.029	18.806	1.00	51.82
ATOM	10633	CA	GLU	5334	48.715	25.175	19.496	1.00	52.41
ATOM	10634	CB	GLU	5334	50.091	25.838	19.472	1.00	54.73
ATOM	10635	CG	GLU	5334	50.456	26.297	18.059	1.00	58.68
ATOM	10636	CD	GLU	5334	51.555	27.355	18.015	1.00	60.96
ATOM	10637	OE1	GLU	5334	51.713	27.982	16.937	1.00	61.63
ATOM	10638	OE2	GLU	5334	52.255	27.554	19.041	1.00	61.76
ATOM	10639	C	GLU	5334	48.236	24.921	20.921	1.00	51.27
ATOM	10640	O	GLU	5334	48.478	23.852	21.475	1.00	51.73
ATOM	10641	N	ASP	5335	47.530	25.889	21.499	1.00	49.21
ATOM	10642	CA	ASP	5335	47.023	25.745	22.857	1.00	47.05
ATOM	10643	CB	ASP	5335	46.569	27.106	23.390	1.00	48.06
ATOM	10644	CG	ASP	5335	47.700	28.125	23.411	1.00	49.15
ATOM	10645	OD1	ASP	5335	48.787	27.801	23.949	1.00	49.02
ATOM	10646	OD2	ASP	5335	47.505	29.251	22.894	1.00	50.01
ATOM	10647	C	ASP	5335	45.898	24.714	22.983	1.00	44.98
ATOM	10648	O	ASP	5335	45.627	24.221	24.075	1.00	43.93
ATOM	10649	N	ALA	5336	45.251	24.381	21.871	1.00	42.80
ATOM	10650	CA	ALA	5336	44.182	23.391	21.896	1.00	41.20
ATOM	10651	CB	ALA	5336	43.589	23.233	20.516	1.00	41.10
ATOM	10652	C	ALA	5336	44.756	22.062	22.376	1.00	40.12
ATOM	10653	O	ALA	5336	45.948	21.800	22.212	1.00	40.22
ATOM	10654	N	GLY	5337	43.916	21.228	22.978	1.00	38.43
ATOM	10655	CA	GLY	5337	44.389	19.949	23.472	1.00	37.45
ATOM	10656	C	GLY	5337	43.853	19.574	24.844	1.00	36.89
ATOM	10657	O	GLY	5337	42.906	20.176	25.339	1.00	37.17
ATOM	10658	N	GLU	5338	44.471	18.578	25.466	1.00	35.83

ATOM	10659	CA	GLU	5338	44.041	18.106	26.771	1.00	34.51
ATOM	10660	CB	GLU	5338	44.128	16.580	26.811	1.00	35.17
ATOM	10661	CG	GLU	5338	43.802	15.964	28.156	1.00	36.27
ATOM	10662	CD	GLU	5338	43.407	14.510	28.032	1.00	37.64
ATOM	10663	OE1	GLU	5338	44.073	13.783	27.268	1.00	38.67
ATOM	10664	OE2	GLU	5338	42.434	14.085	28.697	1.00	38.34
ATOM	10665	C	GLU	5338	44.826	18.695	27.936	1.00	33.55
ATOM	10666	O	GLU	5338	46.054	18.663	27.950	1.00	33.36
ATOM	10667	N	TYR	5339	44.095	19.225	28.915	1.00	32.07
ATOM	10668	CA	TYR	5339	44.679	19.822	30.111	1.00	30.50
ATOM	10669	CB	TYR	5339	44.175	21.248	30.296	1.00	29.26
ATOM	10670	CG	TYR	5339	44.729	22.197	29.270	1.00	28.72
ATOM	10671	CD1	TYR	5339	44.264	22.186	27.959	1.00	27.56
ATOM	10672	CE1	TYR	5339	44.817	23.025	27.000	1.00	28.07
ATOM	10673	CD2	TYR	5339	45.765	23.076	29.597	1.00	28.30
ATOM	10674	CE2	TYR	5339	46.326	23.911	28.647	1.00	27.11
ATOM	10675	CZ	TYR	5339	45.853	23.886	27.354	1.00	27.63
ATOM	10676	OH	TYR	5339	46.409	24.726	26.417	1.00	28.44
ATOM	10677	C	TYR	5339	44.294	18.998	31.317	1.00	30.19
ATOM	10678	O	TYR	5339	43.151	18.570	31.442	1.00	30.80
ATOM	10679	N	THR	5340	45.243	18.792	32.219	1.00	29.67
ATOM	10680	CA	THR	5340	44.981	17.980	33.389	1.00	29.38
ATOM	10681	CB	THR	5340	45.785	16.661	33.319	1.00	28.59
ATOM	10682	OG1	THR	5340	45.341	15.892	32.198	1.00	27.25
ATOM	10683	CG2	THR	5340	45.603	15.851	34.585	1.00	27.89
ATOM	10684	C	THR	5340	45.312	18.657	34.698	1.00	29.54
ATOM	10685	O	THR	5340	46.308	19.360	34.807	1.00	29.41
ATOM	10686	N	CYS	5341	44.456	18.438	35.690	1.00	30.31
ATOM	10687	CA	CYS	5341	44.678	18.965	37.031	1.00	31.02
ATOM	10688	CB	CYS	5341	43.423	19.612	37.608	1.00	31.34
ATOM	10689	SG	CYS	5341	43.643	20.158	39.319	1.00	35.38
ATOM	10690	C	CYS	5341	45.040	17.751	37.868	1.00	31.05
ATOM	10691	O	CYS	5341	44.210	16.880	38.111	1.00	30.92
ATOM	10692	N	LEU	5342	46.291	17.699	38.297	1.00	31.18
ATOM	10693	CA	LEU	5342	46.786	16.584	39.085	1.00	31.35
ATOM	10694	CB	LEU	5342	48.126	16.138	38.497	1.00	32.96
ATOM	10695	CG	LEU	5342	49.015	15.131	39.227	1.00	34.97
ATOM	10696	CD1	LEU	5342	48.292	13.806	39.404	1.00	35.93
ATOM	10697	CD2	LEU	5342	50.298	14.946	38.424	1.00	35.58
ATOM	10698	C	LEU	5342	46.933	16.978	40.548	1.00	30.60
ATOM	10699	O	LEU	5342	47.499	18.013	40.860	1.00	31.31
ATOM	10700	N	ALA	5343	46.415	16.161	41.453	1.00	29.71
ATOM	10701	CA	ALA	5343	46.518	16.472	42.878	1.00	29.07
ATOM	10702	CB	ALA	5343	45.202	17.045	43.396	1.00	28.09
ATOM	10703	C	ALA	5343	46.890	15.232	43.675	1.00	28.65
ATOM	10704	O	ALA	5343	46.284	14.174	43.512	1.00	29.57
ATOM	10705	N	GLY	5344	47.887	15.353	44.539	1.00	27.49
ATOM	10706	CA	GLY	5344	48.271	14.204	45.326	1.00	26.66
ATOM	10707	C	GLY	5344	48.711	14.525	46.736	1.00	25.98
ATOM	10708	O	GLY	5344	49.041	15.663	47.060	1.00	25.70
ATOM	10709	N	ASN	5345	48.687	13.507	47.585	1.00	26.21
ATOM	10710	CA	ASN	5345	49.123	13.633	48.971	1.00	26.47
ATOM	10711	CB	ASN	5345	47.942	13.887	49.922	1.00	25.09
ATOM	10712	CG	ASN	5345	46.852	12.827	49.825	1.00	23.69
ATOM	10713	OD1	ASN	5345	47.089	11.705	49.378	1.00	23.06
ATOM	10714	ND2	ASN	5345	45.653	13.181	50.265	1.00	22.82
ATOM	10715	C	ASN	5345	49.809	12.310	49.276	1.00	27.46
ATOM	10716	O	ASN	5345	49.868	11.437	48.401	1.00	27.69
ATOM	10717	N	SER	5346	50.325	12.139	50.489	1.00	28.05
ATOM	10718	CA	SER	5346	51.042	10.906	50.814	1.00	28.97
ATOM	10719	CB	SER	5346	51.475	10.875	52.285	1.00	29.75
ATOM	10720	OG	SER	5346	50.380	10.615	53.159	1.00	32.69

ATOM	10721	C	SER	5346	50.250	9.649	50.509	1.00	28.96
ATOM	10722	O	SER	5346	50.824	8.634	50.126	1.00	28.66
ATOM	10723	N	ILE	5347	48.931	9.721	50.657	1.00	29.00
ATOM	10724	CA	ILE	5347	48.071	8.569	50.419	1.00	27.89
ATOM	10725	CB	ILE	5347	46.738	8.739	51.123	1.00	27.07
ATOM	10726	CG2	ILE	5347	45.911	7.464	50.983	1.00	25.90
ATOM	10727	CG1	ILE	5347	46.976	9.091	52.589	1.00	24.45
ATOM	10728	CD1	ILE	5347	45.735	9.607	53.270	1.00	23.36
ATOM	10729	C	ILE	5347	47.788	8.220	48.966	1.00	29.21
ATOM	10730	O	ILE	5347	47.604	7.042	48.651	1.00	30.36
ATOM	10731	N	GLY	5348	47.743	9.209	48.074	1.00	29.73
ATOM	10732	CA	GLY	5348	47.475	8.901	46.675	1.00	29.73
ATOM	10733	C	GLY	5348	47.340	10.075	45.717	1.00	30.60
ATOM	10734	O	GLY	5348	47.395	11.240	46.117	1.00	30.60
ATOM	10735	N	LEU	5349	47.139	9.750	44.441	1.00	30.92
ATOM	10736	CA	LEU	5349	47.013	10.726	43.363	1.00	30.55
ATOM	10737	CB	LEU	5349	48.031	10.386	42.282	1.00	31.76
ATOM	10738	CG	LEU	5349	48.948	11.465	41.695	1.00	33.88
ATOM	10739	CD1	LEU	5349	49.933	11.961	42.746	1.00	33.59
ATOM	10740	CD2	LEU	5349	49.709	10.869	40.507	1.00	34.91
ATOM	10741	C	LEU	5349	45.623	10.749	42.726	1.00	30.21
ATOM	10742	O	LEU	5349	44.940	9.732	42.673	1.00	30.37
ATOM	10743	N	SER	5350	45.205	11.915	42.244	1.00	29.66
ATOM	10744	CA	SER	5350	43.911	12.050	41.576	1.00	29.01
ATOM	10745	CB	SER	5350	42.830	12.532	42.533	1.00	29.18
ATOM	10746	OG	SER	5350	42.731	11.669	43.639	1.00	31.09
ATOM	10747	C	SER	5350	44.069	13.065	40.469	1.00	28.41
ATOM	10748	O	SER	5350	44.915	13.952	40.546	1.00	28.94
ATOM	10749	N	HIS	5351	43.259	12.941	39.431	1.00	27.34
ATOM	10750	CA	HIS	5351	43.347	13.880	38.339	1.00	27.39
ATOM	10751	CB	HIS	5351	44.525	13.526	37.427	1.00	27.17
ATOM	10752	CG	HIS	5351	44.294	12.310	36.584	1.00	27.78
ATOM	10753	CD2	HIS	5351	43.762	12.174	35.345	1.00	28.03
ATOM	10754	ND1	HIS	5351	44.591	11.033	37.015	1.00	28.73
ATOM	10755	CE1	HIS	5351	44.252	10.166	36.077	1.00	28.75
ATOM	10756	NE2	HIS	5351	43.745	10.833	35.054	1.00	28.11
ATOM	10757	C	HIS	5351	42.071	13.928	37.517	1.00	27.25
ATOM	10758	O	HIS	5351	41.343	12.951	37.427	1.00	27.38
ATOM	10759	N	HIS	5352	41.814	15.092	36.936	1.00	27.28
ATOM	10760	CA	HIS	5352	40.663	15.319	36.077	1.00	27.52
ATOM	10761	CB	HIS	5352	39.652	16.257	36.741	1.00	27.58
ATOM	10762	CG	HIS	5352	38.710	15.578	37.682	1.00	29.15
ATOM	10763	CD2	HIS	5352	38.574	14.274	38.031	1.00	29.88
ATOM	10764	ND1	HIS	5352	37.729	16.262	38.371	1.00	29.34
ATOM	10765	CE1	HIS	5352	37.026	15.412	39.100	1.00	29.44
ATOM	10766	NE2	HIS	5352	37.519	14.198	38.912	1.00	30.36
ATOM	10767	C	HIS	5352	41.236	15.982	34.834	1.00	27.51
ATOM	10768	O	HIS	5352	42.208	16.729	34.918	1.00	27.49
ATOM	10769	N	SER	5353	40.643	15.697	33.683	1.00	27.68
ATOM	10770	CA	SER	5353	41.111	16.267	32.434	1.00	27.54
ATOM	10771	CB	SER	5353	41.717	15.185	31.553	1.00	27.08
ATOM	10772	OG	SER	5353	42.889	14.667	32.143	1.00	28.50
ATOM	10773	C	SER	5353	39.985	16.936	31.690	1.00	28.16
ATOM	10774	O	SER	5353	38.817	16.595	31.863	1.00	27.80
ATOM	10775	N	ALA	5354	40.347	17.903	30.859	1.00	28.65
ATOM	10776	CA	ALA	5354	39.367	18.616	30.065	1.00	29.26
ATOM	10777	CB	ALA	5354	38.996	19.923	30.746	1.00	27.32
ATOM	10778	C	ALA	5354	40.007	18.880	28.716	1.00	29.71
ATOM	10779	O	ALA	5354	41.228	18.920	28.602	1.00	28.83
ATOM	10780	N	TRP	5355	39.177	19.050	27.696	1.00	31.34
ATOM	10781	CA	TRP	5355	39.677	19.320	26.370	1.00	32.31
ATOM	10782	CB	TRP	5355	39.032	18.371	25.364	1.00	33.27

ATOM	10783	CG	TRP	5355	39.900	18.191	24.176	1.00	34.94
ATOM	10784	CD2	TRP	5355	40.813	17.113	23.955	1.00	35.22
ATOM	10785	CE2	TRP	5355	41.562	17.426	22.797	1.00	35.65
ATOM	10786	CE3	TRP	5355	41.077	15.913	24.631	1.00	35.07
ATOM	10787	CD1	TRP	5355	40.116	19.094	23.156	1.00	34.85
ATOM	10788	NE1	TRP	5355	41.117	18.639	22.328	1.00	35.38
ATOM	10789	CZ2	TRP	5355	42.558	16.580	22.302	1.00	35.11
ATOM	10790	CZ3	TRP	5355	42.063	15.078	24.140	1.00	33.64
ATOM	10791	CH2	TRP	5355	42.792	15.415	22.988	1.00	34.18
ATOM	10792	C	TRP	5355	39.393	20.763	25.974	1.00	32.87
ATOM	10793	O	TRP	5355	38.312	21.284	26.231	1.00	32.22
ATOM	10794	N	LEU	5356	40.377	21.404	25.355	1.00	33.18
ATOM	10795	CA	LEU	5356	40.222	22.776	24.905	1.00	34.03
ATOM	10796	CB	LEU	5356	41.416	23.628	25.337	1.00	32.75
ATOM	10797	CG	LEU	5356	41.315	25.166	25.307	1.00	33.19
ATOM	10798	CD1	LEU	5356	42.486	25.726	24.521	1.00	31.83
ATOM	10799	CD2	LEU	5356	39.992	25.637	24.731	1.00	31.28
ATOM	10800	C	LEU	5356	40.140	22.764	23.383	1.00	34.84
ATOM	10801	O	LEU	5356	41.059	22.304	22.701	1.00	34.42
ATOM	10802	N	THR	5357	39.028	23.257	22.855	1.00	35.35
ATOM	10803	CA	THR	5357	38.827	23.321	21.415	1.00	36.20
ATOM	10804	CB	THR	5357	37.442	22.776	21.028	1.00	35.85
ATOM	10805	OG1	THR	5357	37.380	21.377	21.337	1.00	36.38
ATOM	10806	CG2	THR	5357	37.179	22.982	19.545	1.00	34.83
ATOM	10807	C	THR	5357	38.942	24.766	20.950	1.00	36.84
ATOM	10808	O	THR	5357	38.228	25.633	21.439	1.00	36.48
ATOM	10809	N	VAL	5358	39.846	25.018	20.009	1.00	37.97
ATOM	10810	CA	VAL	5358	40.045	26.363	19.494	1.00	39.61
ATOM	10811	CB	VAL	5358	41.514	26.767	19.589	1.00	39.95
ATOM	10812	CG1	VAL	5358	41.662	28.248	19.245	1.00	40.06
ATOM	10813	CG2	VAL	5358	42.038	26.461	20.992	1.00	39.25
ATOM	10814	C	VAL	5358	39.597	26.512	18.046	1.00	40.30
ATOM	10815	O	VAL	5358	40.006	25.752	17.180	1.00	40.44
ATOM	10816	N	LEU	5359	38.754	27.502	17.787	1.00	41.63
ATOM	10817	CA	LEU	5359	38.269	27.751	16.434	1.00	41.67
ATOM	10818	CB	LEU	5359	36.741	27.681	16.406	1.00	40.73
ATOM	10819	CG	LEU	5359	36.108	26.480	17.115	1.00	40.18
ATOM	10820	CD1	LEU	5359	34.597	26.504	16.938	1.00	39.22
ATOM	10821	CD2	LEU	5359	36.682	25.196	16.564	1.00	40.01
ATOM	10822	C	LEU	5359	38.741	29.126	15.966	1.00	42.37
ATOM	10823	O	LEU	5359	38.632	29.393	14.750	1.00	43.99
ATOM	10824	O	HOH	6000	41.010	-13.253	52.161	1.00	10.47
ATOM	10825	O	HOH	6001	30.281	24.620	55.046	1.00	4.40
ATOM	10826	O	HOH	6002	18.201	21.712	42.806	1.00	15.55
ATOM	10827	O	HOH	6003	7.917	24.943	32.504	1.00	25.27
ATOM	10828	O	HOH	6004	58.961	25.219	56.650	1.00	21.60
ATOM	10829	O	HOH	6005	5.421	18.696	22.306	1.00	25.95
ATOM	10830	O	HOH	6006	17.854	21.830	39.068	1.00	20.72
ATOM	10831	O	HOH	6007	10.847	14.908	24.899	1.00	27.69
ATOM	10832	O	HOH	6008	18.725	15.393	11.988	1.00	25.67
ATOM	10833	O	HOH	6009	20.610	-9.690	55.604	1.00	21.96
ATOM	10834	O	HOH	6010	48.787	22.614	46.276	1.00	23.92
ATOM	10835	O	HOH	6011	7.149	-8.031	2.706	1.00	38.66
ATOM	10836	O	HOH	6012	24.404	-20.530	67.666	1.00	22.73
ATOM	10837	O	HOH	6013	19.332	-3.585	54.974	1.00	24.69
ATOM	10838	O	HOH	6014	47.603	19.925	56.653	1.00	25.25
ATOM	10839	O	HOH	6015	56.085	15.609	64.054	1.00	23.79
ATOM	10840	O	HOH	6016	38.389	14.678	14.371	1.00	24.18
ATOM	10841	O	HOH	6017	26.640	-13.431	69.643	1.00	30.82
ATOM	10842	O	HOH	6018	34.302	21.740	67.972	1.00	30.27
ATOM	10843	O	HOH	6019	25.230	6.654	16.151	1.00	31.32
ATOM	10844	O	HOH	6020	29.114	18.983	48.795	1.00	18.48

ATOM	10845	O	HOH	6021	56.070	24.549	50.408	1.00	31.91
ATOM	10846	O	HOH	6022	29.477	16.898	54.810	1.00	22.80
ATOM	10847	O	HOH	6023	22.787	11.555	7.370	1.00	30.69
ATOM	10848	O	HOH	6024	41.945	13.689	52.597	1.00	33.73
ATOM	10849	O	HOH	6025	17.054	5.525	14.250	1.00	26.83
ATOM	10850	O	HOH	6026	63.395	28.585	68.311	1.00	20.56
ATOM	10851	O	HOH	6027	50.230	5.317	60.190	1.00	21.07
ATOM	10852	O	HOH	6028	51.038	16.487	48.964	1.00	25.10
ATOM	10853	O	HOH	6029	10.985	11.941	29.780	1.00	33.90
ATOM	10854	O	HOH	6030	49.671	25.894	65.915	1.00	29.78
ATOM	10855	O	HOH	6031	24.930	7.181	66.296	1.00	27.29
ATOM	10856	O	HOH	6032	27.068	13.057	71.392	1.00	26.96
ATOM	10857	O	HOH	6033	39.742	12.693	17.833	1.00	20.13
ATOM	10858	O	HOH	6034	34.266	22.639	70.388	1.00	30.04
ATOM	10859	O	HOH	6035	25.116	-12.665	36.032	1.00	26.59
ATOM	10860	O	HOH	6036	37.608	-6.242	60.592	1.00	27.45
ATOM	10861	O	HOH	6037	19.811	30.238	53.158	1.00	25.23
ATOM	10862	O	HOH	6038	50.464	-3.159	69.107	1.00	18.56
ATOM	10863	O	HOH	6039	49.157	6.072	69.224	1.00	31.67
ATOM	10864	O	HOH	6040	26.110	19.612	37.487	1.00	34.79
ATOM	10865	O	HOH	6041	23.465	18.454	30.724	1.00	28.91
ATOM	10866	C1	SCR	1	18.157	11.199	8.470	1.00	65.44
ATOM	10867	C2	SCR	1	17.575	12.483	7.864	1.00	65.45
ATOM	10868	C3	SCR	1	18.751	13.417	7.622	1.00	64.66
ATOM	10869	C4	SCR	1	19.512	13.681	8.942	1.00	64.33
ATOM	10870	C5	SCR	1	20.015	12.333	9.491	1.00	63.34
ATOM	10871	C6	SCR	1	20.825	12.220	10.769	1.00	61.73
ATOM	10872	C11	SCR	1	17.992	8.666	6.192	1.00	69.74
ATOM	10873	C12	SCR	1	18.925	9.049	7.373	1.00	68.65
ATOM	10874	C13	SCR	1	20.283	8.411	7.196	1.00	69.13
ATOM	10875	C14	SCR	1	20.822	8.326	8.591	1.00	69.09
ATOM	10876	C15	SCR	1	19.613	7.844	9.355	1.00	68.19
ATOM	10877	C16	SCR	1	19.579	8.394	10.793	1.00	66.97
ATOM	10878	O1	SCR	1	18.976	10.487	7.522	1.00	66.94
ATOM	10879	O2	SCR	1	16.856	12.150	6.632	1.00	66.32
ATOM	10880	O22	SCR	1	15.048	12.033	5.090	1.00	67.38
ATOM	10881	O23	SCR	1	14.727	13.248	7.143	1.00	66.21
ATOM	10882	O24	SCR	1	14.840	10.907	7.164	1.00	66.96
ATOM	10883	O3	SCR	1	18.297	14.635	7.000	1.00	64.32
ATOM	10884	O32	SCR	1	17.977	14.269	4.582	1.00	63.64
ATOM	10885	O33	SCR	1	18.359	16.462	5.499	1.00	63.00
ATOM	10886	O34	SCR	1	20.082	14.811	5.405	1.00	64.01
ATOM	10887	O4	SCR	1	20.663	14.435	8.499	1.00	65.25
ATOM	10888	O42	SCR	1	22.182	16.168	8.524	1.00	65.25
ATOM	10889	O43	SCR	1	21.169	15.515	10.490	1.00	65.43
ATOM	10890	O44	SCR	1	19.945	16.749	8.856	1.00	65.66
ATOM	10891	O5	SCR	1	18.882	11.501	9.689	1.00	64.48
ATOM	10892	O6	SCR	1	20.143	12.686	11.937	1.00	60.05
ATOM	10893	O62	SCR	1	21.610	13.760	13.505	1.00	59.51
ATOM	10894	O63	SCR	1	21.494	11.432	13.496	1.00	58.99
ATOM	10895	O64	SCR	1	19.658	12.652	14.214	1.00	59.33
ATOM	10896	O10	SCR	1	18.480	8.404	8.604	1.00	68.22
ATOM	10897	O51	SCR	1	18.473	7.853	11.587	1.00	65.56
ATOM	10898	O52	SCR	1	16.957	9.721	11.721	1.00	64.49
ATOM	10899	O53	SCR	1	18.341	9.116	13.568	1.00	65.29
ATOM	10900	O54	SCR	1	16.540	7.812	12.950	1.00	64.66
ATOM	10901	O71	SCR	1	22.020	7.505	8.637	1.00	69.73
ATOM	10902	O72	SCR	1	24.349	7.351	9.123	1.00	70.03
ATOM	10903	O73	SCR	1	22.881	8.127	10.822	1.00	70.36
ATOM	10904	O74	SCR	1	23.355	9.522	9.005	1.00	70.27
ATOM	10905	O81	SCR	1	17.825	7.215	6.018	1.00	71.29
ATOM	10906	O82	SCR	1	15.528	7.410	5.413	1.00	72.14

ATOM	10907	O83	SCR	1	16.618	5.249	5.293	1.00	72.57
ATOM	10908	O84	SCR	1	17.146	6.914	3.751	1.00	71.81
ATOM	10909	O91	SCR	1	21.197	9.283	6.587	1.00	70.50
ATOM	10910	O92	SCR	1	22.773	9.583	4.899	1.00	71.13
ATOM	10911	O93	SCR	1	20.514	9.815	4.405	1.00	70.59
ATOM	10912	O94	SCR	1	21.437	7.637	4.946	1.00	70.33
ATOM	10913	S2	SCR	1	15.373	12.088	6.520	1.00	67.00
ATOM	10914	S3	SCR	1	18.667	15.035	5.626	1.00	63.84
ATOM	10915	S4	SCR	1	20.957	15.727	9.103	1.00	65.66
ATOM	10916	S6	SCR	1	20.744	12.636	13.274	1.00	59.11
ATOM	10917	S11	SCR	1	16.769	6.694	5.132	1.00	72.24
ATOM	10918	S12	SCR	1	21.463	9.067	5.211	1.00	71.15
ATOM	10919	S13	SCR	1	23.145	8.122	9.386	1.00	70.51
ATOM	10920	S14	SCR	1	17.579	8.644	12.429	1.00	64.25
ATOM	10921	C1	SCR	2	34.552	0.732	83.131	1.00	83.61
ATOM	10922	C2	SCR	2	34.282	-0.580	83.877	1.00	83.18
ATOM	10923	C3	SCR	2	35.441	-1.532	83.558	1.00	82.73
ATOM	10924	C4	SCR	2	35.593	-1.700	82.036	1.00	82.62
ATOM	10925	C5	SCR	2	35.796	-0.317	81.390	1.00	82.27
ATOM	10926	C6	SCR	2	35.990	-0.134	79.895	1.00	81.13
ATOM	10927	C11	SCR	2	35.298	3.226	85.281	1.00	88.41
ATOM	10928	C12	SCR	2	35.723	2.863	83.845	1.00	87.56
ATOM	10929	C13	SCR	2	37.053	3.515	83.528	1.00	88.18
ATOM	10930	C14	SCR	2	37.006	3.704	82.040	1.00	87.83
ATOM	10931	C15	SCR	2	35.587	4.136	81.792	1.00	87.50
ATOM	10932	C16	SCR	2	35.054	3.588	80.453	1.00	87.21
ATOM	10933	O1	SCR	2	35.704	1.426	83.658	1.00	85.63
ATOM	10934	O2	SCR	2	34.138	-0.282	85.305	1.00	83.47
ATOM	10935	O22	SCR	2	32.985	0.711	87.141	1.00	83.49
ATOM	10936	O23	SCR	2	32.394	-1.518	86.459	1.00	83.42
ATOM	10937	O24	SCR	2	31.797	0.315	85.125	1.00	83.26
ATOM	10938	O3	SCR	2	35.243	-2.812	84.206	1.00	82.37
ATOM	10939	O32	SCR	2	35.864	-2.329	86.540	1.00	81.76
ATOM	10940	O33	SCR	2	35.465	-4.562	85.796	1.00	81.88
ATOM	10941	O34	SCR	2	37.406	-3.328	85.118	1.00	81.45
ATOM	10942	O4	SCR	2	36.835	-2.427	81.935	1.00	83.31
ATOM	10943	O42	SCR	2	38.209	-4.145	81.220	1.00	83.75
ATOM	10944	O43	SCR	2	36.425	-3.485	79.920	1.00	84.12
ATOM	10945	O44	SCR	2	36.068	-4.737	81.918	1.00	84.02
ATOM	10946	O5	SCR	2	34.676	0.487	81.719	1.00	82.70
ATOM	10947	O6	SCR	2	34.805	-0.334	79.134	1.00	79.99
ATOM	10948	O62	SCR	2	35.580	-1.352	77.104	1.00	79.12
ATOM	10949	O63	SCR	2	35.288	0.965	77.157	1.00	79.08
ATOM	10950	O64	SCR	2	33.417	-0.404	77.280	1.00	79.43
ATOM	10951	O10	SCR	2	34.839	3.526	82.889	1.00	87.40
ATOM	10952	O51	SCR	2	33.907	4.333	79.927	1.00	87.19
ATOM	10953	O52	SCR	2	32.111	3.348	81.219	1.00	87.56
ATOM	10954	O53	SCR	2	32.401	2.839	78.895	1.00	86.88
ATOM	10955	O54	SCR	2	31.623	4.913	79.571	1.00	87.09
ATOM	10956	O71	SCR	2	38.044	4.600	81.599	1.00	87.77
ATOM	10957	O72	SCR	2	39.918	4.999	80.193	1.00	87.97
ATOM	10958	O73	SCR	2	38.075	3.769	79.331	1.00	88.02
ATOM	10959	O74	SCR	2	39.455	2.765	80.908	1.00	88.21
ATOM	10960	O81	SCR	2	34.705	4.561	85.371	1.00	90.35
ATOM	10961	O82	SCR	2	33.481	4.335	87.389	1.00	91.50
ATOM	10962	O83	SCR	2	34.022	6.548	86.566	1.00	91.67
ATOM	10963	O84	SCR	2	35.699	5.174	87.434	1.00	91.90
ATOM	10964	O91	SCR	2	38.129	2.605	83.658	1.00	89.66
ATOM	10965	O92	SCR	2	40.163	1.912	84.562	1.00	90.45
ATOM	10966	O93	SCR	2	38.463	2.598	85.995	1.00	90.09
ATOM	10967	O94	SCR	2	39.585	4.197	84.556	1.00	90.29
ATOM	10968	S2	SCR	2	32.830	-0.197	85.999	1.00	83.44

ATOM	10969	S3	SCR	2	35.986	-3.246	85.411	1.00	81.76
ATOM	10970	S4	SCR	2	36.851	-3.707	81.256	1.00	83.84
ATOM	10971	S6	SCR	2	34.796	-0.284	77.672	1.00	79.41
ATOM	10972	S11	SCR	2	34.456	5.158	86.684	1.00	91.63
ATOM	10973	S12	SCR	2	39.070	2.845	84.697	1.00	90.46
ATOM	10974	S13	SCR	2	38.869	4.042	80.518	1.00	87.92
ATOM	10975	S14	SCR	2	32.521	3.849	79.929	1.00	87.13
ATOM	10976	C1	SCR	3	30.258	-0.570	4.254	1.00	100.00
ATOM	10977	C2	SCR	3	30.450	-1.292	2.904	1.00	99.98
ATOM	10978	C3	SCR	3	29.544	-2.543	2.908	1.00	100.00
ATOM	10979	C4	SCR	3	29.827	-3.407	4.165	1.00	100.00
ATOM	10980	C5	SCR	3	29.611	-2.564	5.428	1.00	99.80
ATOM	10981	C6	SCR	3	29.785	-3.154	6.822	1.00	99.86
ATOM	10982	C11	SCR	3	28.787	2.578	4.180	1.00	100.00
ATOM	10983	C12	SCR	3	28.764	1.321	5.122	1.00	100.00
ATOM	10984	C13	SCR	3	27.477	1.290	5.922	1.00	100.00
ATOM	10985	C14	SCR	3	27.865	0.489	7.146	1.00	100.00
ATOM	10986	C15	SCR	3	29.205	1.096	7.499	1.00	100.00
ATOM	10987	C16	SCR	3	30.148	0.077	8.162	1.00	99.84
ATOM	10988	O1	SCR	3	28.974	0.093	4.352	1.00	100.00
ATOM	10989	O2	SCR	3	30.167	-0.345	1.803	1.00	100.00
ATOM	10990	O22	SCR	3	30.641	1.641	0.549	1.00	99.80
ATOM	10991	O23	SCR	3	31.658	-0.432	-0.135	1.00	100.00
ATOM	10992	O24	SCR	3	32.407	0.650	1.811	1.00	100.00
ATOM	10993	O3	SCR	3	29.756	-3.315	1.696	1.00	100.00
ATOM	10994	O32	SCR	3	27.505	-4.335	1.556	1.00	100.00
ATOM	10995	O33	SCR	3	28.260	-2.756	-0.083	1.00	100.00
ATOM	10996	O34	SCR	3	29.180	-4.978	0.059	1.00	100.00
ATOM	10997	O4	SCR	3	28.789	-4.416	4.123	1.00	100.00
ATOM	10998	O42	SCR	3	27.930	-6.565	4.240	1.00	100.00
ATOM	10999	O43	SCR	3	29.866	-6.060	5.387	1.00	99.76
ATOM	11000	O44	SCR	3	29.877	-6.296	3.009	1.00	100.00
ATOM	11001	O5	SCR	3	30.502	-1.461	5.368	1.00	99.93
ATOM	11002	O6	SCR	3	31.097	-2.998	7.375	1.00	99.78
ATOM	11003	O62	SCR	3	31.535	-5.378	7.507	1.00	100.00
ATOM	11004	O63	SCR	3	33.092	-3.896	8.368	1.00	100.00
ATOM	11005	O64	SCR	3	32.798	-3.955	6.074	1.00	100.00
ATOM	11006	O10	SCR	3	29.759	1.457	6.195	1.00	100.00
ATOM	11007	O51	SCR	3	29.913	-0.142	9.584	1.00	100.00
ATOM	11008	O52	SCR	3	31.449	-2.015	9.640	1.00	99.92
ATOM	11009	O53	SCR	3	29.606	-1.879	11.158	1.00	100.00
ATOM	11010	O54	SCR	3	31.444	-0.492	11.364	1.00	100.00
ATOM	11011	O71	SCR	3	26.834	0.520	8.172	1.00	100.00
ATOM	11012	O72	SCR	3	25.777	-0.636	9.999	1.00	99.87
ATOM	11013	O73	SCR	3	27.654	-1.651	8.946	1.00	100.00
ATOM	11014	O74	SCR	3	25.642	-1.579	7.797	1.00	100.00
ATOM	11015	O81	SCR	3	29.690	3.661	4.618	1.00	100.00
ATOM	11016	O82	SCR	3	31.705	3.493	5.846	1.00	100.00
ATOM	11017	O83	SCR	3	31.731	4.662	3.735	1.00	100.00
ATOM	11018	O84	SCR	3	31.536	2.340	3.799	1.00	99.68
ATOM	11019	O91	SCR	3	26.513	0.455	5.301	1.00	100.00
ATOM	11020	O92	SCR	3	24.485	0.319	4.133	1.00	100.00
ATOM	11021	O93	SCR	3	26.448	0.761	2.959	1.00	100.00
ATOM	11022	O94	SCR	3	25.501	2.426	4.467	1.00	100.00
ATOM	11023	S2	SCR	3	31.219	0.373	1.016	1.00	100.00
ATOM	11024	S3	SCR	3	28.674	-3.843	0.824	1.00	100.00
ATOM	11025	S4	SCR	3	29.151	-5.829	4.176	1.00	100.00
ATOM	11026	S6	SCR	3	32.115	-4.063	7.344	1.00	99.83
ATOM	11027	S11	SCR	3	31.165	3.550	4.500	1.00	100.00
ATOM	11028	S12	SCR	3	25.754	1.005	4.219	1.00	100.00
ATOM	11029	S13	SCR	3	26.478	-0.823	8.730	1.00	100.00
ATOM	11030	S14	SCR	3	30.608	-1.142	10.404	1.00	100.00

ATOM	11031	C1	SCR	4	46.531	12.100	82.426	1.00	99.85
ATOM	11032	C2	SCR	4	46.363	13.025	83.660	1.00	99.90
ATOM	11033	C3	SCR	4	46.075	14.456	83.125	1.00	99.92
ATOM	11034	C4	SCR	4	47.180	14.884	82.112	1.00	99.67
ATOM	11035	C5	SCR	4	47.273	13.824	81.015	1.00	99.28
ATOM	11036	C6	SCR	4	48.167	13.938	79.812	1.00	98.99
ATOM	11037	C11	SCR	4	43.741	9.929	81.727	1.00	100.00
ATOM	11038	C12	SCR	4	44.979	10.544	81.026	1.00	100.00
ATOM	11039	C13	SCR	4	44.709	10.542	79.517	1.00	100.00
ATOM	11040	C14	SCR	4	46.003	10.110	78.831	1.00	100.00
ATOM	11041	C15	SCR	4	46.822	9.416	79.877	1.00	100.00
ATOM	11042	C16	SCR	4	48.206	10.089	79.952	1.00	100.00
ATOM	11043	O1	SCR	4	45.308	11.863	81.631	1.00	100.00
ATOM	11044	O2	SCR	4	45.370	12.457	84.602	1.00	100.00
ATOM	11045	O22	SCR	4	44.466	11.513	86.615	1.00	99.94
ATOM	11046	O23	SCR	4	46.677	12.468	86.693	1.00	100.00
ATOM	11047	O24	SCR	4	46.321	10.420	85.586	1.00	100.00
ATOM	11048	O3	SCR	4	45.843	15.442	84.199	1.00	100.00
ATOM	11049	O32	SCR	4	48.266	15.940	84.657	1.00	100.00
ATOM	11050	O33	SCR	4	46.549	17.522	85.136	1.00	99.91
ATOM	11051	O34	SCR	4	46.825	15.524	86.427	1.00	100.00
ATOM	11052	O4	SCR	4	46.652	16.101	81.522	1.00	100.00
ATOM	11053	O42	SCR	4	47.477	17.654	79.995	1.00	99.71
ATOM	11054	O43	SCR	4	48.837	16.943	81.712	1.00	99.90
ATOM	11055	O44	SCR	4	47.022	18.432	82.129	1.00	99.88
ATOM	11056	O5	SCR	4	47.603	12.602	81.615	1.00	99.25
ATOM	11057	O6	SCR	4	47.452	13.854	78.588	1.00	98.53
ATOM	11058	O62	SCR	4	49.007	15.181	77.341	1.00	98.39
ATOM	11059	O63	SCR	4	46.910	16.060	77.816	1.00	98.49
ATOM	11060	O64	SCR	4	47.050	14.267	76.338	1.00	98.70
ATOM	11061	O10	SCR	4	46.105	9.610	81.139	1.00	100.00
ATOM	11062	O51	SCR	4	49.138	9.449	80.854	1.00	100.00
ATOM	11063	O52	SCR	4	48.010	9.318	83.002	1.00	99.91
ATOM	11064	O53	SCR	4	49.559	11.112	82.507	1.00	100.00
ATOM	11065	O54	SCR	4	50.297	8.942	82.838	1.00	100.00
ATOM	11066	O71	SCR	4	45.740	9.331	77.627	1.00	100.00
ATOM	11067	O72	SCR	4	46.494	8.435	75.533	1.00	100.00
ATOM	11068	O73	SCR	4	48.123	9.130	77.089	1.00	99.61
ATOM	11069	O74	SCR	4	46.862	10.762	75.987	1.00	100.00
ATOM	11070	O81	SCR	4	44.003	9.561	83.129	1.00	100.00
ATOM	11071	O82	SCR	4	43.951	8.169	85.042	1.00	100.00
ATOM	11072	O83	SCR	4	44.216	7.142	82.863	1.00	100.00
ATOM	11073	O84	SCR	4	42.165	8.092	83.495	1.00	100.00
ATOM	11074	O91	SCR	4	44.576	11.859	79.014	1.00	100.00
ATOM	11075	O92	SCR	4	43.455	13.408	77.692	1.00	100.00
ATOM	11076	O93	SCR	4	42.545	12.815	79.750	1.00	100.00
ATOM	11077	O94	SCR	4	42.584	11.235	77.915	1.00	100.00
ATOM	11078	S2	SCR	4	45.716	11.716	85.866	1.00	100.00
ATOM	11079	S3	SCR	4	46.874	16.094	85.086	1.00	100.00
ATOM	11080	S4	SCR	4	47.499	17.289	81.373	1.00	100.00
ATOM	11081	S6	SCR	4	47.616	14.849	77.536	1.00	98.29
ATOM	11082	S11	SCR	4	43.605	8.235	83.631	1.00	100.00
ATOM	11083	S12	SCR	4	43.282	12.307	78.605	1.00	100.00
ATOM	11084	S13	SCR	4	46.799	9.413	76.568	1.00	100.00
ATOM	11085	S14	SCR	4	49.214	9.707	82.295	1.00	100.00
ATOM	11086	S	SO4	9001	-0.201	33.666	31.694	1.00	70.52
ATOM	11087	O1	SO4	9001	-1.549	33.115	31.925	1.00	70.57
ATOM	11088	O2	SO4	9001	-0.211	35.121	31.935	1.00	70.60
ATOM	11089	O3	SO4	9001	0.736	33.022	32.636	1.00	70.65
ATOM	11090	O4	SO4	9001	0.201	33.418	30.292	1.00	70.21
ATOM	11091	S	SO4	9002	67.211	34.040	57.975	1.00	75.75
ATOM	11092	O1	SO4	9002	67.310	35.125	56.981	1.00	75.62

```
ATOM  11093  O2  SO4  9002      68.562  33.697  58.463  1.00 75.61
ATOM  11094  O3  SO4  9002      66.372  34.466  59.119  1.00 75.40
ATOM  11095  O4  SO4  9002      66.614  32.866  57.313  1.00 75.52
ATOM  11096  S   SO4  9003      25.939 -22.811  81.082  1.00 78.81
ATOM  11097  O1  SO4  9003      26.791 -23.418  80.039  1.00 79.05
ATOM  11098  O2  SO4  9003      26.025 -23.616  82.319  1.00 79.12
ATOM  11099  O3  SO4  9003      26.394 -21.432  81.355  1.00 79.12
ATOM  11100  O4  SO4  9003      24.541 -22.775  80.610  1.00 79.18
END
```

WHAT IS CLAIMED IS:

1. An isolated composition comprising a ternary complex of:

(a) an FGF ligand polypeptide;

(b) an FGF receptor polypeptide; and

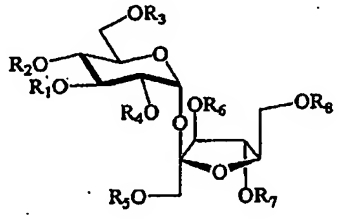
(c) a heparin agonist or antagonist,

wherein the heparin agonist or antagonist binds to the FGF ligand polypeptide and the FGF receptor polypeptide to form the ternary complex.

2. An isolated composition according to claim 1 in which the FGF ligand polypeptide is an FGF2 polypeptide having the amino acid sequence set forth in SEQ ID NO:1.

3. An isolated composition according to claim 1 in which the FGF receptor polypeptide is an FGFR1 polypeptide comprising residues 142-365 of the amino acid sequence set forth in SEQ ID NO:3.

4. An isolated composition according to claim 1 in which the heparin agonist or antagonist is a compound having the structure:



wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 are independently benzyl, trityl, or - SO_3H.

5. An isolated composition according to claim 4 wherein at least one of R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 is a benzyl or trityl.

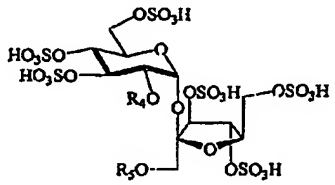
6. An isolated composition according to claim 4 in which the heparin agonist or antagonist is a heparin agonist.

7. An isolated composition according to claim 6 in which the heparin agonist is sucrose octasulfate (SOS).

8. An isolated composition according to claim 6 in which the heparin agonist is inositol hexasulfate or cyclodextrin.

9. An isolated composition according to claim 4 in which the heparin agonist or antagonist is a heparin antagonist.

10. An isolated composition according to claim 4 in which the heparin antagonist is a compound having the structure:



wherein R_4 and R_5 are independently benzyl, trityl, or SO_3H, and
wherein at least one of R_4 and R_5 is benzyl or trityl.

11. An isolated composition according to claim 1 in which the ternary complex is dimerized.

12. An isolated composition according to claim 1 in which the ternary complex is dimer incompetent.

13. An isolated composition according to claim 1 in which molecules of the ternary complex have a crystalline structure.

14. An isolated composition according to claim 13 in which the crystalline structure has structure coordinates as set forth in the Appendix.

15. A method for identifying a compound that is an inhibitor of FGF receptor activity, which method comprises:

(a) designing a test compound, based on crystal structure coordinates for a ternary complex comprising (i) an FGF ligand polypeptide, (ii) an FGF receptor polypeptide, and (iii) a heparin agonist or antagonist that binds to the FGF ligand polypeptide and the FGF receptor polypeptide to form the ternary complex;

(b) synthesizing the designed test compound; and

(c) determining whether the test compound modulates FGF receptor activity.

16. A method according to claim 15 in which:

(a) a first ternary complex and a second ternary complex are dimerized in the crystal structure coordinates; and

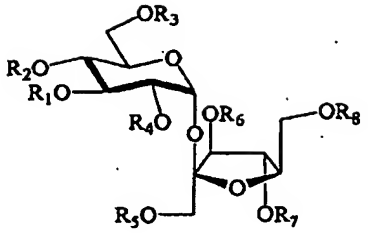
(b) the test compound is designed to form hydrogen bonds with the FGF receptor and ligand polypeptides in the first ternary complex, and also to form hydrogen bonds with an FGF receptor in the second ternary complex.

17. A method according to claim 15 in which the FGF receptor activity is a tyrosine kinase activity.

18. A method according to claim 15 in which the FGF receptor activity is an activity selected from the group consisting of mitogenesis and angiogenesis.

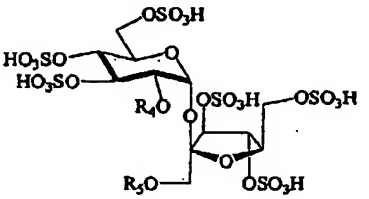
19. A method for inhibiting FGF receptor activity in a cell expressing an FGF receptor polypeptide, which method comprises contacting the cell with a compound in the presence of an FGF ligand so that FGF receptor activity in the cell is inhibited,

the compound having the structure:



wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 are independently benzyl, trityl, or - SO_3H, and at least one of R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 is benzyl or trityl.

20. A method according to claim 19, wherein the compound has the structure

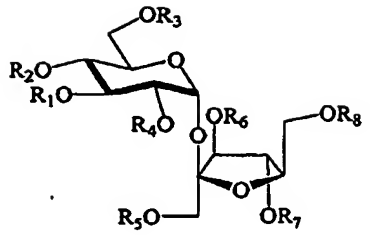


wherein R_4 and R_5 are independently benzyl, trityl or -SO3H, and
wherein at least one of R_4 and R_5 is benzyl or trityl.

21. A method according to claim 19 in which the FGF receptor activity is a tyrosine kinase activity.

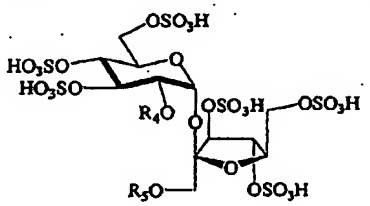
22. A method according to claim 19 in which the FGF receptor activity is angiogenesis or mitogenesis.

23. A method for inhibiting dimerization of an FGF receptor polypeptide, which method comprises contacting the FGF receptor polypeptide to an admixture comprising (i) an FGF ligand, and (ii) having the structure:



wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 are independently benzyl, trityl, or -SO_3H, and at least one of R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 is benzyl or trityl, so that dimerization of the FGF receptor polypeptide is inhibited.

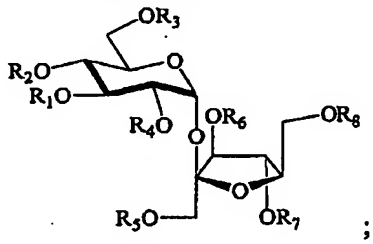
24. A method according to claim 19, wherein the compound has the structure



wherein R_4 and R_5 are independently benzyl, trityl or -SO3H, and wherein at least one of R_4 and R_5 is benzyl or trityl.

25. A pharmaceutical composition comprising:

(a) as compound having the structure:

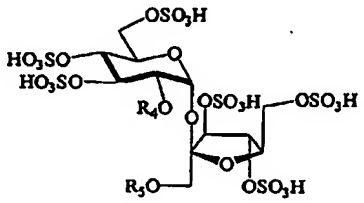


; and

(b) a physiologically acceptable carrier or excipient,

wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 are independently benzyl, trityl, or - SO_3H, and at least one of R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8 is benzyl or trityl.

26. A pharmaceutical composition according to claim 25, wherein the compound has the structure:



wherein R_4 and R_5 are independently benzyl, trityl or -SO3H, and
wherein at least one of R_4 and R_5 is benzyl or trityl.

27. An isolated composition according to claim 9, wherein the heparin antagonist is suramin.

```
  1 maagsittlp alpedggsga fppghfkdpk rlyckнggff lrihpdgrvd gvreksdphi
 61 klqlqaeerg vvsikgvcan rylamkedgr llaskcvtde cffferlesn nyntyrsrky
121 tswyvalkrt gqyklgsktg pgqkailflp msaks
```

FIG. 1A

```
  1 gggaccatgg cagccgggag catcaccacg ctgcccgcct tgcccgagga tggcggcagc
 61 ggcgccttcc cgcccggcca cttcaaggac cccaagcggc tgtactgcaa aaacgggggc
121 ttcttcctgc gcatccaccc cgacggccga gttgacgggg tccgggagaa gagcgaccct
181 cacatcaagc tacaacttca agcagaagag agaggagttg tgtctatcaa aggagtgtgt
241 gctaaccgtt acctggctat gaaggaagat ggaagattac tggcttctaa atgtgttacg
301 gatgagtgtt tctttttga acgattggaa tctaataact acaatactta ccgctcaagg
361 aaatacacca gttggtatgt ggcactgaaa cgaactgggc agtataaact tggatccaaa
421 acaggacctg ggcagaaagc tatacttttt cttccaatgt ctgctaagag ctga
```

FIG. 1B

```
  1 mwswkcllfw avlvtatlct arpsptlpeq aqpwgapvev esflvhpgdl lqlrcrlrdd
 61 vqsinwlrdg vqlaesnrtr itgeevevqd svpadsglya cvtsspsgsd ttyfsvnvsd
121 aipsseaaaa aaassseeke tdntkpnrmp vapywtspek mekklhavpa aktvkfkcps
181 sgtpnptlrw lkngkefkpd hriggykvry atwsiimdsv vpsdkgnytc iveneygsin
241 htyqldvver sphrpilqag lpanktvalg snvefmckvy sdpqphiqwl khievngski
301 gpdnlpyvqi lktagvnttd kemevlhlrn vsfedageyt clagnsigls hhsawltvle
361 aleerpavmt splyleiiiy ctgafliscm vgsvivykmk sgtkksdfhs qmavhklaks
421 iplrrqvtvs adssasmnsg vllvrpsrls ssgtpmlagv seyelpedpr welprdrlvl
481 gkplgegcfg qvvlaeaigl dkdkpnrvtk vavkmlksda tekdlsdlis ememmkmigk
541 hkniinllga ctqdgplyvi veyaskgnlr eylqarrppg leycynpshn peeqlsskdl
601 vscayqvarg meylaskkci hrdlaarnvl vtednvmkia dfglardihh idyykkttng
661 rlpvkwmape alfdriythq sdvwsfgvll weiftlggsp ypgvpveelf kllkeghrmd
721 kpsnctnely mmmrdcwhav psqrptfkql vedldrival tsnqeyldls mpldqyspsf
781 pdtrsstcss gedsvfshep lpeepclprh paqlangglk rr
```

FIG. 2A

```
   1 cgaggcggaa cctccagccc gagcgagggt cagtttgaaa aggaggatcg agctcanctg
  61 tggagtatcc atggagatgt ggagccttgt caccaacctc taactgcaga actgggnatg
 121 tggagctgga agtgcctcct cttctgggct gtgctggtca cagccacact ctgcaccgct
 181 aggccgtccc cgaccttgcc tgaacaagcc cagccctggg gagcccctgt ggaagtggag
 241 tccttcctgg tccacccccgg tgacctgctg cagcttcgct gtcggctgcg ggacgatgtg
 301 cagagcatca actggctgcg ggacggggtg cagctggcgg aaagcaaccg cacccgcatc
 361 acaggggagg aggtggaggt gcaggactcc gtgcccgcag actccggcct ctatgcttgc
 421 gtaaccagca gcccctcggg cagtgacacc acctacttct ccgtcaatgt ttcagatgct
 481 ctcccctcct cggaggatga tgatgatgat gatgactcct cttcagagga gaaagaaaca
 541 gataacacca aaccaaaccg tatgcccgta gctccatatt ggacatcccc agaaaagatg
 601 gaaaagaaat tgcatgcagt gccggctgcc aagacagtga agttcaaatg cccttccagt
 661 gggaccccaa accccacact gcgctggttg aaaaatggca aagaattcaa acctgaccac
 721 agaattggag gctacaaggt ccgttatgcc acctggagca tcataatgga ctctgtggtg
 781 ccctctgaca agggcaacta cacctgcatt gtggagaatg agtacggcag catcaaccac
 841 acataccagc tggatgtcgt ggagcggtcc cctcaccggc ccatcctgca agcagggttg
 901 cccgccaaca aaacagtggc cctgggtagc aacgtggagt tcatgtgtaa ggtgtacagt
 961 gacccgcagc cgcacatcca gtggctaaag cacatcgagg tgaatgggag caagattggc
1021 ccagacaacc tgccttatgt ccagatcttg aagactgctg gagttaatac caccgacaaa
1081 gagatggagg tgcttcactt aagaaatgtc tcctttgagg acgcagggga gtatacgtgc
1141 ttggcgggta actctatcgg actctcccat cactctgcat ggttgaccgt tctggaagcc
1201 ctggaagaga ggccggcagt gatgacctcg cccctgtacc tggagatcat catctattgc
1261 acaggggcct tcctcatctc ctgcatggtg gggtcggtca tcgtctacaa gatgaagagt
1321 ggtaccaaga agagtgactt ccacagccag atggctgtgc acaagctggc caagagcatc
1381 cctctgcgca gacaggtaac agtgtctgct gactccagtg catccatgaa ctctggggtt
1441 cttctggttc ggccatcacg gctctcctcc agtgggactc ccatgctagc aggggtctct
1501 gagtatgagc ttcccgaaga ccctcgctgg gagctgcctc gggacagact ggtcttaggc
1561 aaacccctgg gagagggctg ctttgggcag gtggtgttgg cagaggctat cgggctggac
1621 aaggacaaac ccaaccgtgt gaccaaagtg gctgtgaaga tgttgaagtc ggacgcaaca
1681 gagaaagact tgtcagacct gatctcagaa atggagatga tgaagatgat cgggaagcat
1741 aagaatatca tcaacctgct gggggcctgc acgcaggatg gtcccttgta tgtcatcgtg
1801 gagtatgcct ccaagggcaa cctgcgggag tacctgcagg cccggaggcc cccagggctg
1861 gaatactgct acaaccccag ccacaaccca gaggagcagc tctcctccaa ggacctggtg
1921 tcctgcgcct accaggtggc ccgaggcatg gagtatctgg cctccaagaa gtgcatacac
1981 cgagacctgg cagccaggaa tgtcctggtg acagaggaca atgtgatgaa gatagcagac
2041 tttggcctcg cacgggacat tcaccacatc gactactata aaaagacaac caacggccga
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2161 gatgtgtggt ctttcggggt gctcctgtgg gagatcttca ctctgggcgg ctccccatac
2221 cccggtgtgc ctgtggagga acttttcaag ctgctgaagg agggtcaccg catggacaag
2281 cccagtaact gcaccaacga gctgtacatg atgatgcggg actgctggca tgcagtgccc
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2401 tccaaccagg agtacctgga cctgtccatg ccctggacc agtactcccc cagctttccc
2461 gacacccgga gctctacgtg ctcctcaggg gaggattccg tcttctctca tgagccgctg
2521 cccgaggagc cctgcctgcc ccgacaccca gcccagcttg ccaatcgggg actcaaacgc
2581 cgctgactgc cacccacacg ccctccccag actccaccgt cagctgtaac cctcacccac
2641 agcccctgct gggcccacca cctgtccgtc cctgtccct ttcctgctgg cagccggctg
2701 cctaccaggg gccttcctgt gtggcctgct tca
```

FIG. 2B

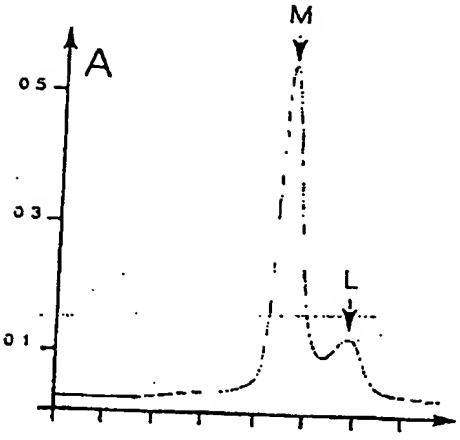


FIG. 3A

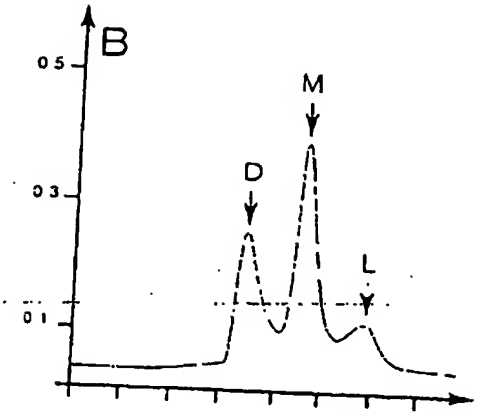


FIG. 3B

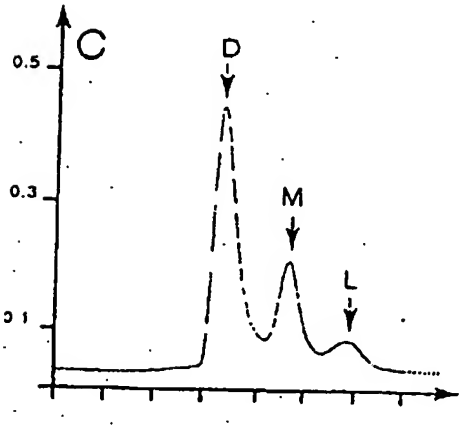


FIG. 3C

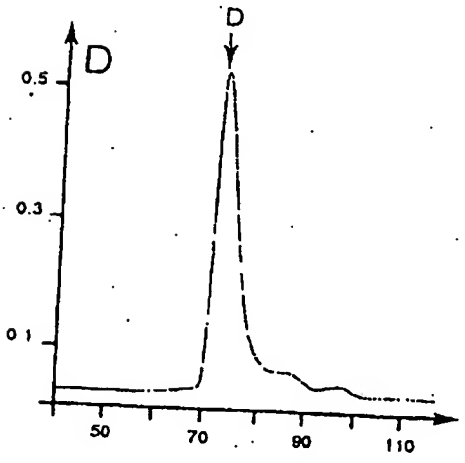


FIG. 3D

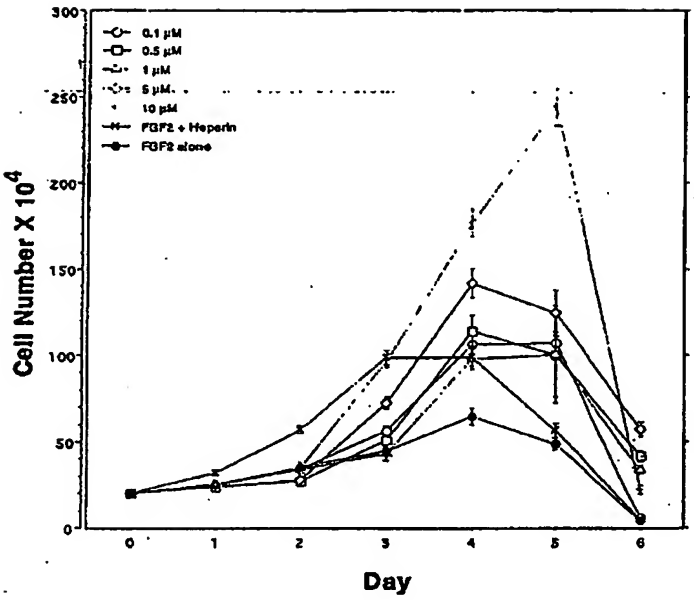

0.1 µM
0.5 µM
1 µM
5 µM
10 µM
FGF2 + Heparin
FGF2 alone
Cell Number X 10^4
300
250
200
150
100
50
0
0
1
2
3
4
5
6
Day

FIG. 4

FIG. 5A

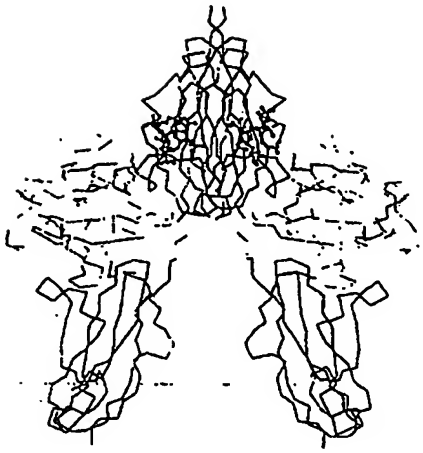


FIG. 5B

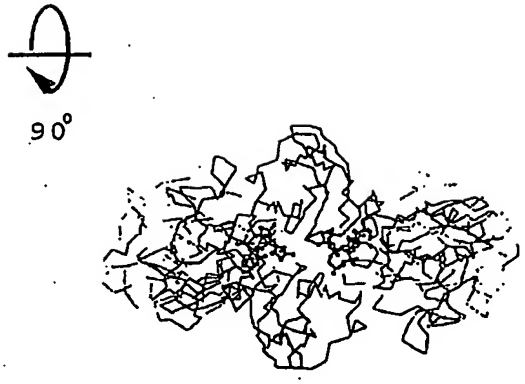


FIG. 5C

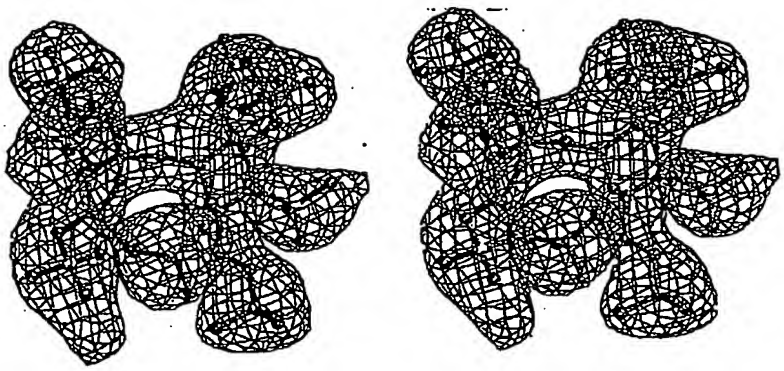


FIG. 6

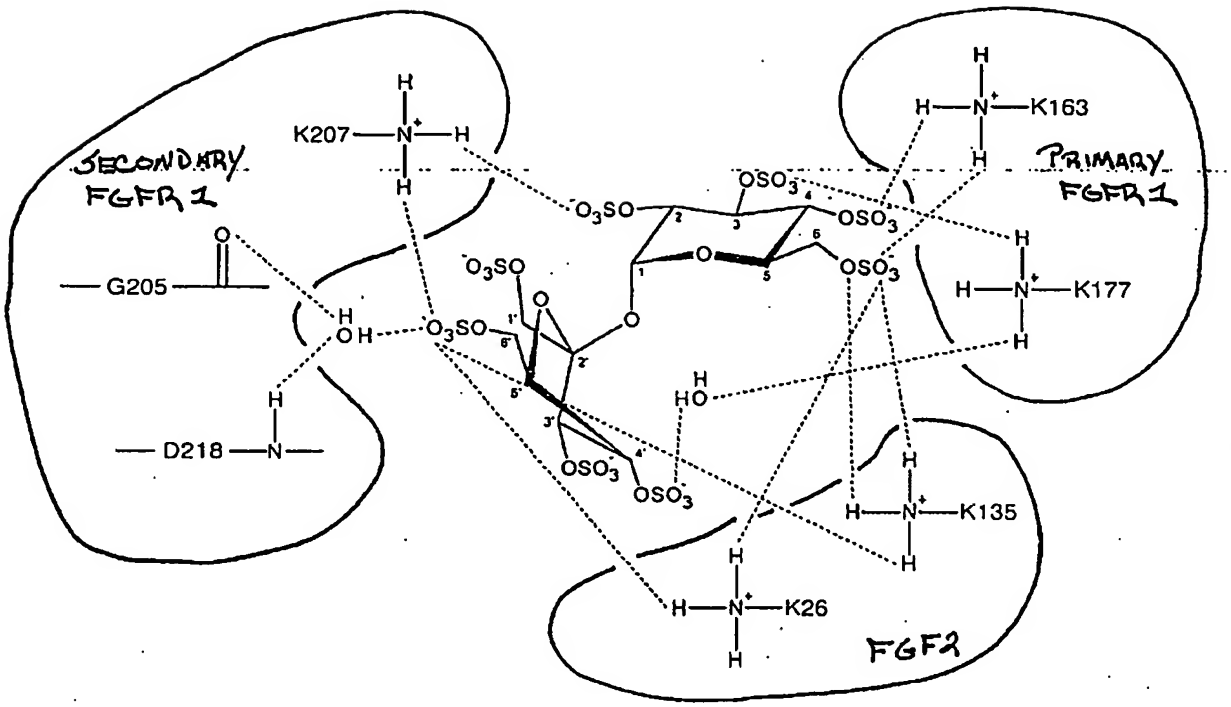

SECONDARY FGFR1
PRIMARY FGFR1
FGF2
K207
K163
K177
K135
K26
G205
D218
O_3SO
OSO_3
HO
OH

FIG. 7

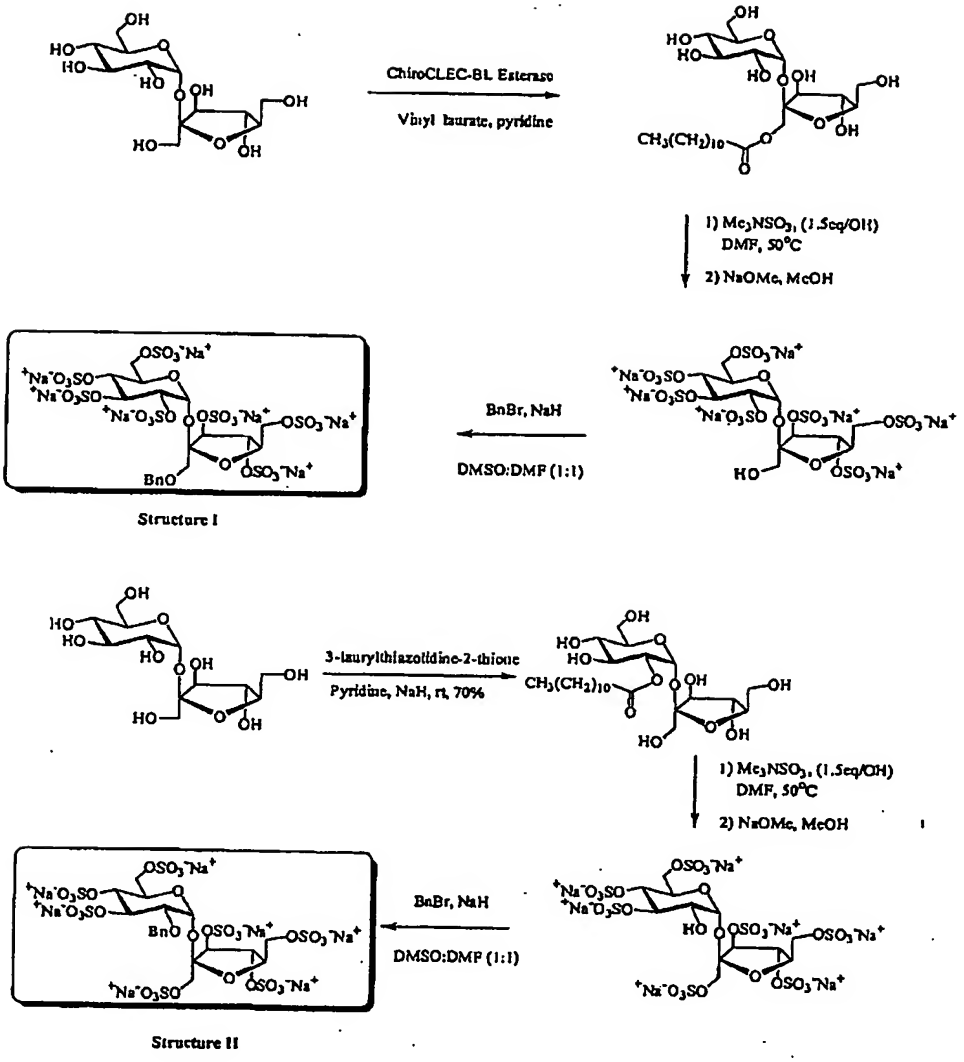
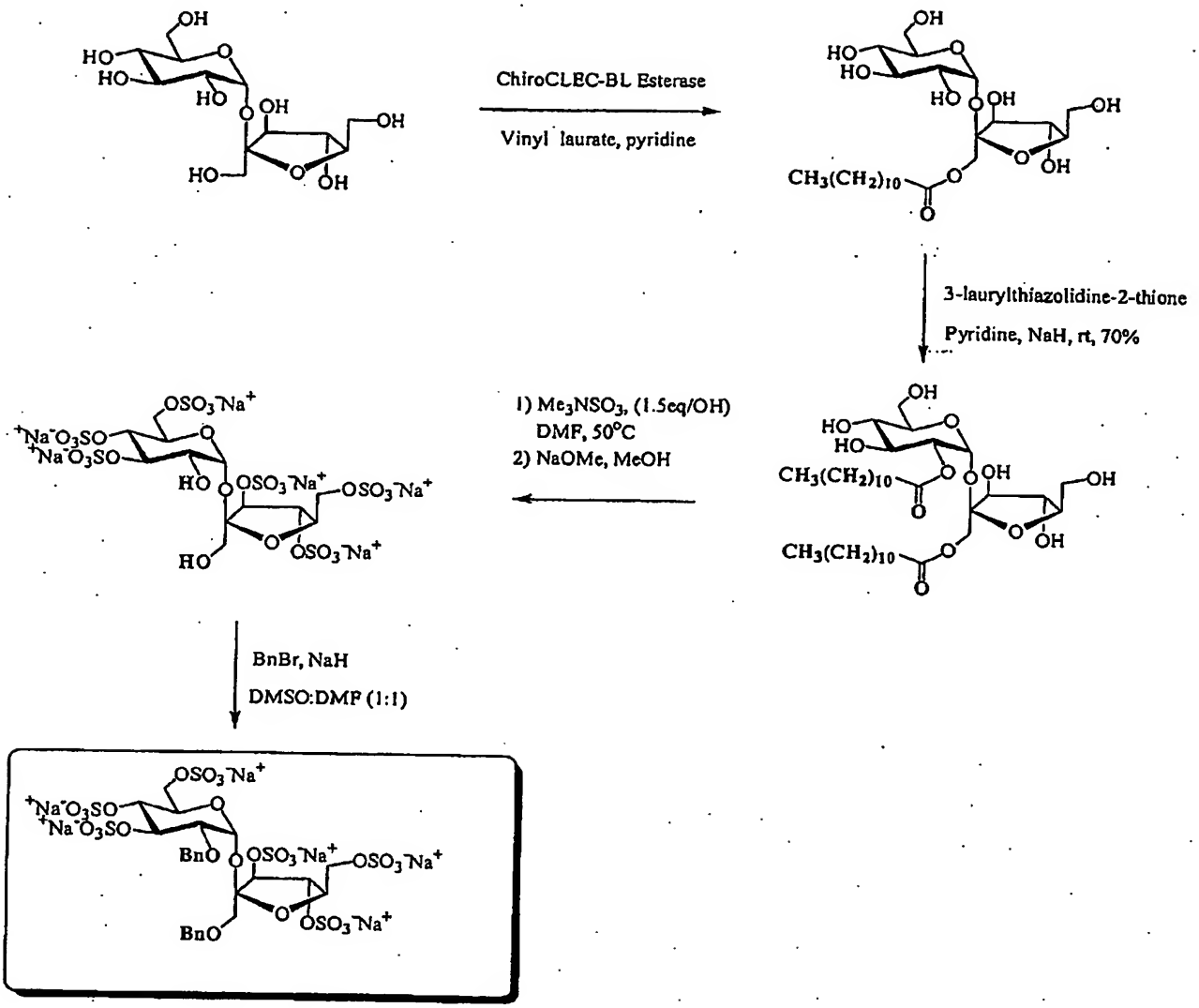
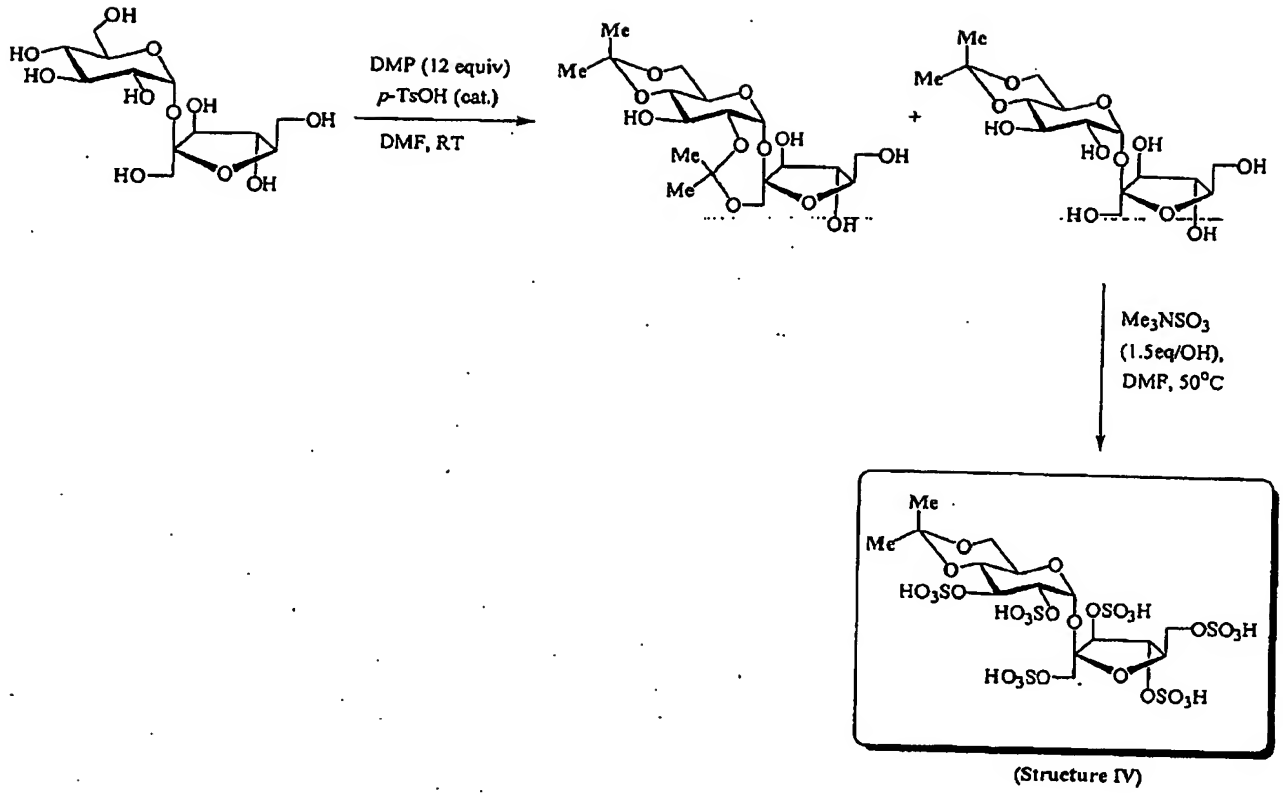

ChiroCLEC-BL Esterase
Vinyl laurate, pyridine
1) Me3NSO3, (1.5eq/OH)
DMF, 50°C
2) NaOMe, MeOH
BnBr, NaH
DMSO:DMF (1:1)
Structure I
3-laurylthiazolidine-2-thione
Pyridine, NaH, rt, 70%
1) Me3NSO3, (1.5eq/OH)
DMF, 50°C
2) NaOMe, MeOH
BnBr, NaH
DMSO:DMF (1:1)
Structure II

FIG. 8



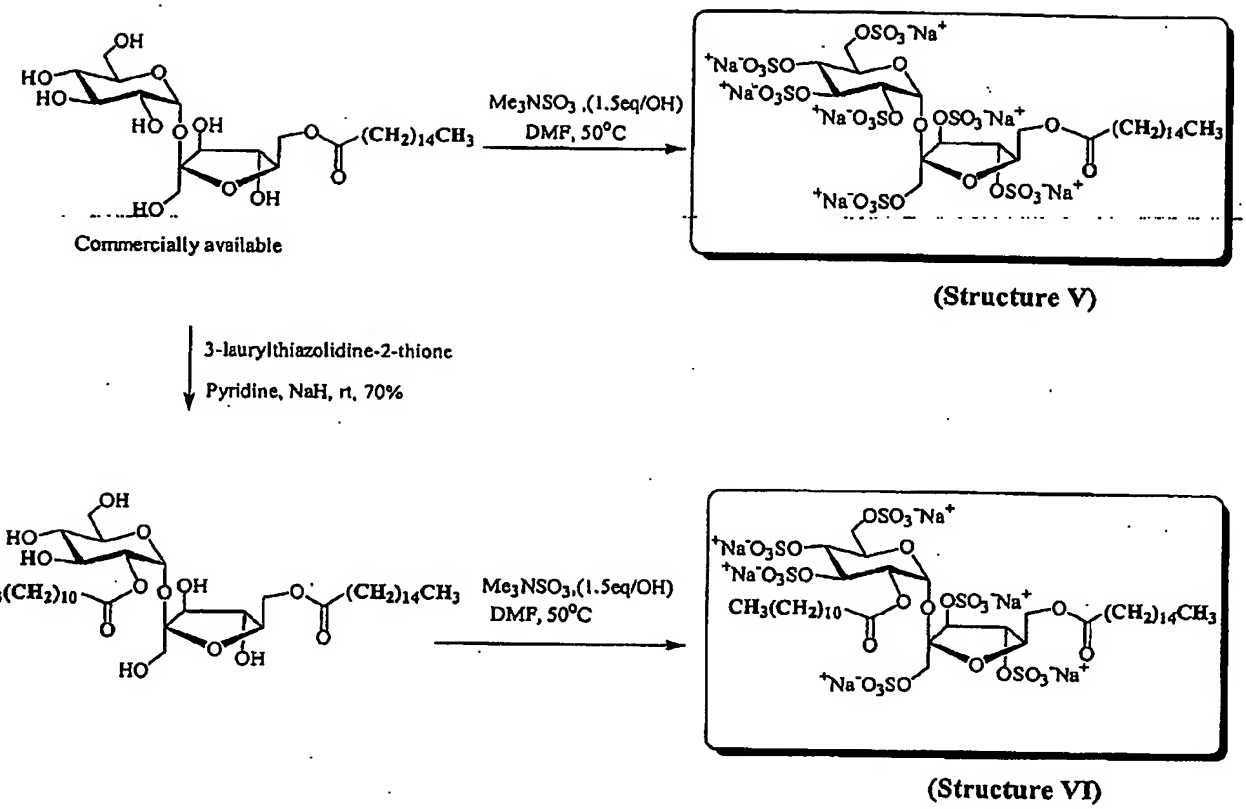
Structre III

FIG. 9



(Structure IV)

FIG. 10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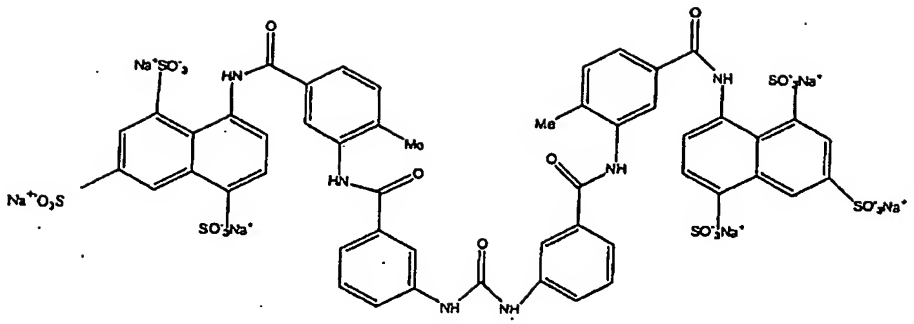
DMF, 50°C
Commercially available
(Structure V)
3-laurylthiazolidine-2-thione
Pyridine, NaH, rt, 70%
Me3NSO3,(1.5eq/OH)
DMF, 50°C
(Structure VI)

FIG. 11



(Structure VII)

FIG. 12

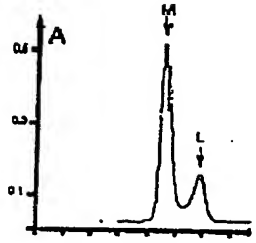


FIG. 13A

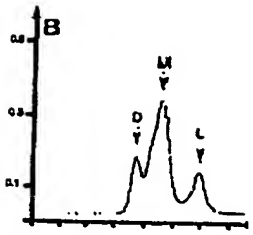


FIG. 13B

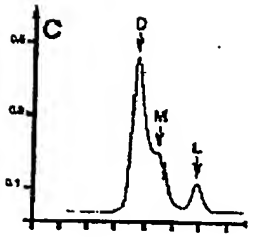


FIG. 13C

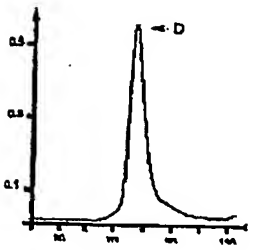


FIG. 13D

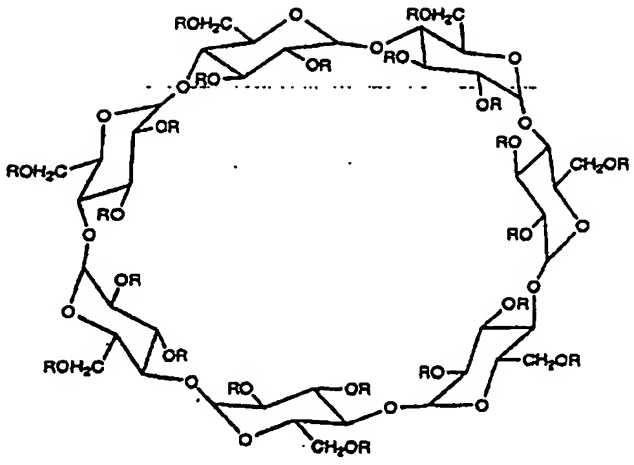


FIG. 14

FIG. 15A

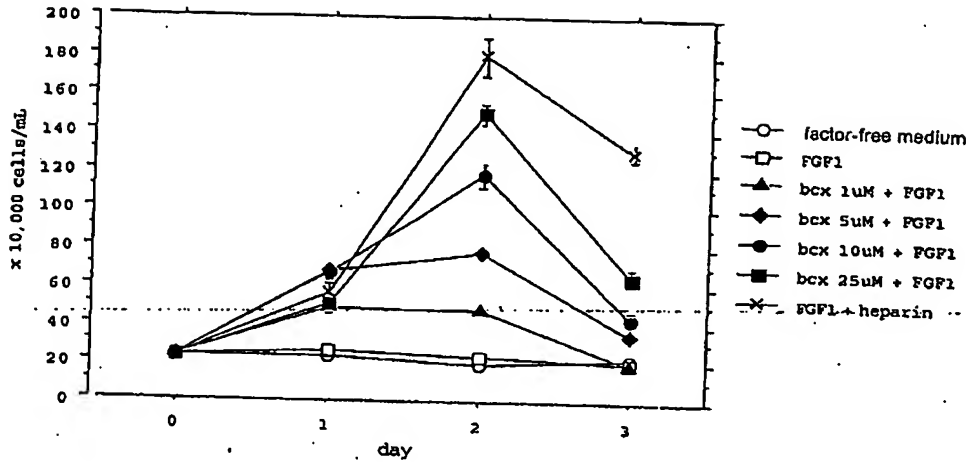


FIG. 15B

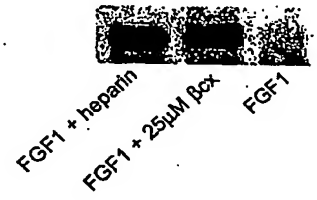


FIG. 15C

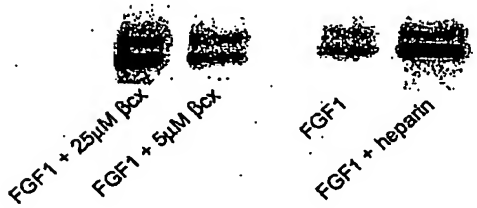


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FIG.16A

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FIG.16B

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University of Iowa
Moosa, Mohammadi
Green, David L.
Linhard, Robert J.

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His Thr Tyr Gln Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile
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